Indian Standard

GLOSSARY OF CONVEYOR TERMS AND DEFINITIONS

Conveyors, Vertical Hoists and Bucket Elevators Sectional Committee, EDC 61

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Indian Standard

GLOSSARY OF CONVEYOR TERMS AND DEFINITIONS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 20 June 1967, after the draft finalized by the Conveyors, Vertical Hoists and Bucket Elevators Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This glossary of terms has been prepared for the guidance of manufacturers and users of conveyor equipment to assist them in the correct interpretation of the common terms used in conveyor trade and usage. It is hoped that this standard will help in establishing a generally recognized usage and eliminate ambiguity and confusion arising out of individual interpretation of terms.

0.3 Technical and engineering terms commonly used by the conveyor trade have been included to make the glossary as self contained as possible, although it is appreciated that many of these terms may be employed just as extensively by other groups. Many of the terms defined in this glossary of terms may not necessarily have the same definitions in a context not related to conveyors.

0.4 This standard is mainly based on ASA MH4.1-1958 ' Conveyor terms and definitions ' issued by the American Standards Association. However, considerable assistance has also been derived from B.S. 3810 : Part 2 : 1965 ' Glossary of terms used in materials handling — Terms used in connection with conveyors and elevators (excluding pneumatic and hydraulic handling) ' issued by the British Standards Institution.

1. SCOPE

1.1 This standard gives the definition of terms commonly used in conveyor manufacture, trade installation and usage.

2. TERMINOLOGY

2.1 For the purpose of this standard, the following definitions shall apply:

A

Accordion Roller Conveyor — A roller conveyor with a flexible latticed frame which permits variation in length (*see* Fig. 1). (*See* ' Roller Conveyor ').

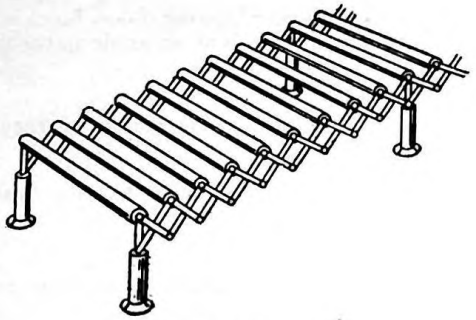


FIG. 1

Accumulator Conveyor — Any conveyor designed to permit accumulation of packages or objects. Usually roller, live roller conveyor, roller slat conveyor or belt conveyors.

A-Frame — A support frame, or bent, with main members set on slopes suggesting the letter 'A'.

Air Lock

a) *When applied to gates or valves*, indicates tightness of closure such as to prevent movement of air as well as of bulk materials.

b) *When applied to feeders*, indicates ability to transfer bulk materials from inlet to outlet without ever presenting an open passage that would allow free flow of air.

Air Lock Bin Valve — A type of valve used to control free-flowing materials which may have become aerated. The flow of material is interrupted at two points and provides an air chamber between the two seals when closed.

Airplane Tripper — *See* ' Wing Belt Tripper '.

Allowable Stress — The permissible operating stress determined by the application of a suitable safety factor to the ultimate strength. Allowable stress will be reduced for shock loads and other adverse operating conditions.

Anchor Bolts — Bolts used for anchoring the conveyor to the floor, pit and roof or other foundation.

Angle of Inclination — *See* ' Maximum Angle of Inclination '.

Angle of Repose — That angle to the horizontal which a material will assume naturally when in a pile.

Angle of Slide — That angle at which material will slide on an inclined surface as determined by the nature of the material and the kind of surface on which it is supported.

Angle Pillow Block — A split sleeve bearing pillow block in which the plane of the split between the cap and base is at an angle to the plane of the base.

Antibackup — *See* ' Backstop '.

Antifriction Bearing — A bearing using rolling elements such as balls, rollers, or needles.

Antifriction Pillow Block — A pillow block in which the bearing consists of an antifriction bearing such as ball, roller or needle bearings. (*See* ' Pillow Block '.)

Antirunaway — A mechanical safety device to lock or catch the conveyor and prevent its running away down a slope in direction of travel in case of a failure.

Antislip Surface — The carrying surface of a conveying medium when it is especially prepared to give greater than normal traction.

Apron — A series of apron pans which, when attached to chain or pivotally attached one to another forms the conveying medium for an apron conveyor.

Apron Conveyor — A conveyor in which an apron forms the moving bed (*see* Fig. 2).

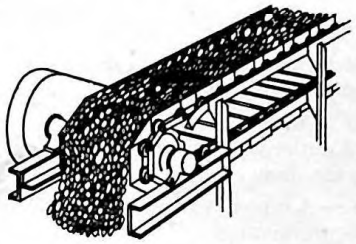


FIG. 2

Apron Feeder — *See* ' Conveyor Type Feeder ' and ' Apron Conveyor '.

Apron Flight — *See* ' Apron Pan '.

Apron Pan — One of the series of overlapping or interlocking plates or shapes which, together with others, form the conveyor bed. (*See* ' Hinged Apron Pan '.)

Apron Pan, Double Beaded — *See* ' Double Beaded Apron Pan '.

Apron Pan End — A side which is attached at each end of the apron pan normal to the carrying surface so that material may be carried deeper without spilling over the edges.

Arc of Contact — That portion of the pulley face measured in degrees which is in contact with the belt. The term is ordinarily used in connection with driving pulleys.

Archimedes Conveyor — *See* ' Internal Ribbon Conveyor '.

Arching — The bridging of material between the sides of a bin, chute, hopper or bunker under certain conditions, whereby flow from the containing unit ceases.

Arm Conveyor — A conveyor consisting of an endless belt, or one or more chains, to which are attached projecting arms, or shelves, for handling packages or objects in a vertical or inclined path (*see* Fig. 3).

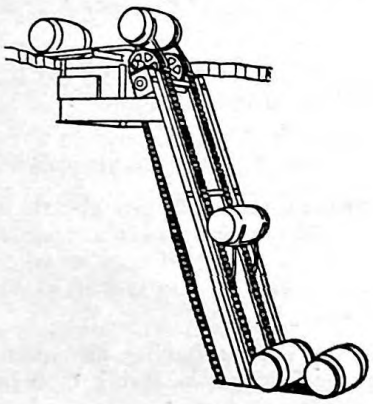


FIG. 3

Armoured Apron — An apron in which each pan is provided with a separate wearing plate.

Armoured Belt — A conveyor belt which has been protected by metal strips to prevent gouging or tearing of the cover by sharp objects being handled.

Ash Conveyor — *See* ' Hydraulic Conveyor ' and ' Pneumatic Conveyor '.

Assembly Conveyor — Any type of conveyor adapted to convey assemblies or parts through a series of progressive assembly operations.

Assembly Table — *See* ' Assembly Conveyor '.

Attachment — *On a trolley conveyor*, a part assembled to trolley or chain for the purpose of supporting or moving the objects being conveyed. (*See also* ' Chain Attachment ' and ' Flight Attachments '.)

Auger — *See* ' Conveyor Screw '.

Automatic Belt Tripper — A belt-propelled or motor-driven tripper having automatically controlled forward and reverse traversing movement between established limiting points.

Automatic Conveyor Scale — A device that weighs the material carried by a conveyor system, such as a conveyor belt, and automatically totalizes the weight of the material moved.

Automatic Feeder

a) Any feeder which operates selectively or synchronously with associated equipment or devices to effect separation or delivery of objects or packages.

b) Any feeder which operates automatically to maintain a predetermined rate of flow of bulk materials.

Automatic Lubricator — A device located on a conveyor to automatically lubricate the chain or other parts as they pass.

Automatic Power Shovel — Usually an electric driven mechanism to provide power to a manually handled shovel or scoop, automatically disengaging when shovel reaches car door and engages when operator gives slack to the shovel rope. Principally used to unload grain or other free flowing material from box car.

Automatic Takeup — A takeup having provisions which permit it to automatically compensate for stretch, shrink of belts, cables, chains, etc, and to maintain the proper tension.

Automation — It is the concept of a system for automatic processing. Full ' automation ' involves an element of decision and embodies the automatic control of all operations including materials handling; manipulation and positioning; machining and processing; assembly and inspection; packaging and warehousing. Partial automation may involve but one operation, or a part of one operation.

Axle — A shaft, either rotating or nonrotating, on which are mounted the driving or supporting wheels of a car or carriage.

B

Babbitted Bearing — A bearing composed of babbitt metal.

Babbitted Flanged Block — A flanged bearing block having a babbitted bearing.

Babbitted Pillow Block — A pillow block having a babbitted bearing.

Backing

a) *In pillow blocks, motors, speed reducers, and other like objects*, the distance from the centre of the shaft to the mounting surface.

b) *In miter or bevel gears*, the distance from the pitch circle plane to the face of the hub on the side opposite the teeth.

Backing Guard — An auxiliary guard attached along the inside of the shell of an enclosed spiral chute.

Backstop — A mechanical device to prevent reversal of loaded conveyor or elevator under action of gravity when forward travel is interrupted.

Backup Bar — A metal bar used to backup the chain of a caterpillar drive to hold the drive chain dogs in proper contact with the conveyor chain.

Backup Rollers — A series of rollers so mounted as to backup the conveyor chain to hold it in proper relation to the caterpillar chain dogs.

Baffle — *See* ' Deflector '.

Bag Elevator — *See* ' Arm Conveyor '.

Bag Feeder — Any device or conveyor used to separate and feed bags, sacks or pouches.

Bail — A yoke or pivoted frame designed to span a conveyor frame or skip bucket and provide a single point of support.

Balanced Drive — A drive so designed that two or more such drives on a single conveyor may be synchronized to pull predetermined shares of the load.

Balanced Vibrating Conveyor — A vibrating conveyor in which the centre of gravity of the complete assembly is held constant by having movement of the trough offset by opposite movement of some other element.

Ball Bearing End Thrust — A screw conveyor end bearing unit incorporating a ball bearing thrust bearing. May be equipped with a drive or end shaft.

Ball Bearing Flanged Block — A flanged block utilizing balls as a bearing element.

Ball Bearing Pillow Block — A pillow block utilizing balls as a bearing element.

Ball Table — A group of ball transfers over which flat surfaced objects may be moved in any direction.

Ball Transfer — A device in which a large ball is mounted and retained on a hemispherical face of smaller balls.

Balustrade — A wall or structure, approximately waist-high, along each side of a moving walk or stairway for safety of passengers.

Banana Conveyor — *See* ' Pocket Conveyor '.

Band Brake — *See* ' Backstop '.

Band Conveyor — *See* ' Steel Band Conveyor '.

Band Silo — A British term for a self-discharging storage bin or tank in which a flat belt or series of belt conveyors constitute a moving bottom.

Bar Flight Conveyor — *See* ' Drag Chain Conveyor ' and ' Flight Conveyor '.

Bar Grizzly — A series of spaced bars, rails, pipes, or other members used for rough sizing of bulk material passed across it to allow smaller pieces to drop through the spaces.

Bar Link Chain — A straight side bar chain having a barrelless centre link. In some forms the centre link is made from two side bars, with or without a spacer washer, and in others the centre link is solid (*see* Fig. 4).

FIG. 4

Bare Pulley — A pulley which does not have the surface of its face covered (or lagged).

Barn Cleaner — *See* ' Barn Conveyor '.

Barn Conveyor — Any type of conveyor usually installed in trenches along the rear of stalls in barns for the purpose of removing manure and delivering it to storage pile or farm vehicle.

Barrel Elevator — *See* ' Arm Conveyor '.

Base Belt — In a closed belt conveyor it is that portion of a type of closed belt which remains flat and provides the necessary tensile strength.

Base Plate — A filler or intermediate support between a structure or machine and its foundation.

Basket Carrier — *See* ' Carrier '.

Batching Plant — A combination of material handling apparatus for storing various materials and withdrawing them so as to make up batches of accurately proportioned multiple ingredients.

Batching Scale — A scale fitted with a hopper for the accumulation of selective amounts of one or more materials, in total making up a batch.

Bead — A cylindrical segment along the edge of an apron pan concentric with the pivot point.

Beaded and Curved Apron Pan — An apron pan having a segment of a cylindrical bead along one edge with a formed curve at the other edge which overlaps the bead along the edge of the adjacent pan.

Beam Clamp — A device for gripping the flange of supporting beams or trusses for the purpose of suspending from same a structure such as a conveyor frame or track.

Beam Conveyor — *See* ' Reciprocating Beam Conveyor '.

Bearing — A machine part in or on which a journal, shaft end, axle, pin or other part rotates, oscillates or slides.

Bearing Block — The block or housing which contains or supports a bearing.

Bearing Box — *See* ' Bearing Block '.

Bearing Housing — *See* ' Bearing Block '.

Bearing Stop — A member fastened to the bearing supporting framework to prevent shifting or to fix the position of a bearing.

Bed

a) That part of a conveyor upon which the load or carrying medium rests or slides while being conveyed.

b) *In bulk material conveyors,* the mass of material being conveyed.

Bell Mouth — *See* ' Inlet '.

Belt — *See* Conveyor Belt; Interwoven Conveyor Belt; Rubber Conveyor Belt; Solid Woven Conveyor Belt; Steel Band Belt; Steel Cable Conveyor Belt; Stitched Canvas Conveyor Belt; and Wire Mesh Conveyor Belt.

Belt Cleaner — Auxiliary equipment the purpose of which is to clean or remove material which clings to the conveyor belt. (*See also* Brush Cleaner; Rotary Belt Cleaner; and Scraper.)

Belt Cleat — *See* ' Cleat '.

Belt Conveyor — An endless fabric, rubber, plastic, leather, or metal belt operating over suitable drive, tail end and bend terminals and over belt idlers or slider bed for handling bulk materials, packages, or objects, placed directly upon it (*see* Fig. 5).

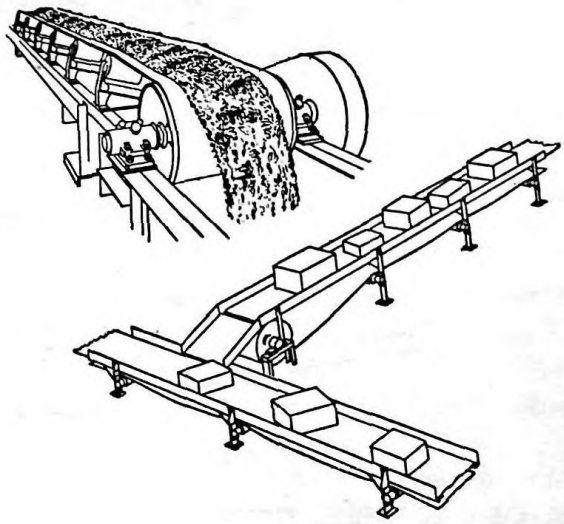


FIG. 5

Belt Conveyor Decking — *See* ' Decking '.

Belt Conveyor Idler — *See* Belt Idler; Belt Training Idler; Flat Belt Idler; Guide Idler; Impact Belt Idler; Return Idler; and Troughing Idler.

Belt Conveyor Tripper — *See* ' Belt Tripper '.

Belt Elevator — *See* ' Bucket Elevator '.

Belt Feeder — *See* ' Conveyor Type Feeder '.

Belt Friction — *See* ' Friction '.

Belt Guide Idler — *See* ' Guide Idler '.

Belt Idler — A roll or series of rolls which support the belt of the conveyor or direct (guide) its path to prevent it from coming in contact with a stationary part.

Belt Idler Frame — *See* ' Bend Frame ' and ' Stand '.

Belt Pitch Line — *See* ' Pitch '.

Belt Ply — *See* ' Ply '.

Belt Sag — *See* ' Sag '.

Belt Speed — *See* ' Speed. '

Belt Table — A table incorporating a belt conveyor so arranged as to provide working space on one or both sides of the belt.

Belt Training Idler — A belt idler which by means of a belt actuated swivel mechanism controls the side runout of the belt within limits (*see* Fig. 6).

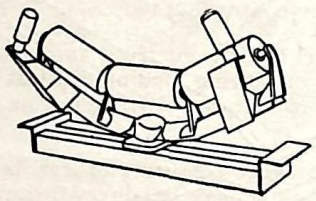


FIG. 6

Belt Tripper — A device or mechanism which causes the conveyor belt to pass around pulleys for the purpose of discharging material from it (*see* Fig. 7). (*See also* Automatic Belt Tripper; Belt-Propelled Tripper; Fixed Tripper; Four-Pulley Belt Tripper; Hand-Propelled Belt Tripper; Manually-Controlled Belt Tripper; Motor Propelled Belt Tripper; and Self-Propelled Belt Tripper.)

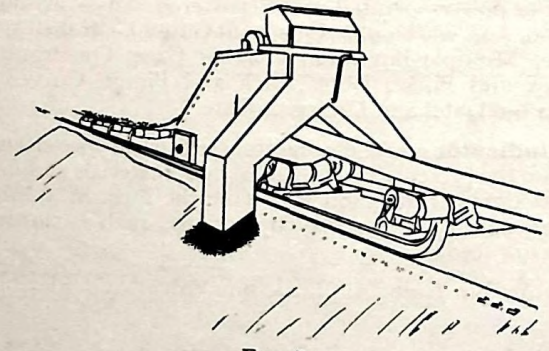


FIG. 7

Belt-Propelled Tripper — A belt conveyor tripper which utilizes the power from an operating conveyor belt to move itself from one location to another.

Bend Frame — The structure supporting the assembly of pulley(s) or sprocket(s) designed to change the direction of travel of belting or chain, usually a change of less than 180°.

Bend Pulley — Any pulley used to change the direction of the travel of the belt.

Bend Shaft — A shaft which supports a bend wheel or pulley.

Bend Sheave — *See* ' Bend Wheel '.

Bend Sprocket — *See* ' Bend Wheel '.

Bend Wheel — A wheel used to interrupt and change the normal path of travel of the conveying or driving medium. Most generally used to effect a change in direction of a conveyor travel from inclined to horizontal or a similar change.

Bent — A transverse structure consisting of legs, bracing and feet used for the purpose of supporting a gallery or conveyor frame at a fixed elevation.

Bifurcated Chute — A chute which separates into two branches. It is usually fitted with a deflector plate to control the delivery of material to either or both branches.

Bifurcating Feeder — One which separates objects moving in a single lane and delivers them to two lanes of movement.

Bin — A container for storing material.

Bin Gate — A device for complete shut-off or control of gravity impelled flow of materials from a bin, bunker, hopper or other container. May be hand or power-operated and if powered can be arranged for automatic operation. [*See also* Double Quadrant Gate (Clamshell); Dump Gate; Loading Gate; Multiple Bin Gate; Overcut Gate; Quadrant Gate (Segmental); Rack and Pinion Gate; Rack and Pinion Curved Slide Gate; Rolling Apron Bin Gate; and Undercut Gate.]

Bin Level Indicator — A mechanical, electrical or electronic device used to indicate the presence or absence of bulk materials at a predetermined location or elevation. Indication may take the form of audible or visible signals or a sequence of events may be initiated such as starting and stopping conveyors or feeders.

Bin Valve — *See* Bin Gate; Air Lock Bin Valve; and Flexible Tube Bin Valve.

Bin Valve, Undercut — *See* ' Undercut Gate '.

Blanket Belt Conveyor — A conveyor composed of two moving belts working in unison, the carrying faces being in or near contact. The load is carried between the two belts (*see* Fig. 8). This conveyor can be used up and down steep inclines.

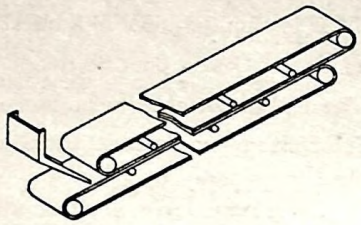


FIG. 8

Blanking Plate — An adjustable detachable plate used for restricting the loading of a conveyor.

Blast Gate — A sliding valve or a butterfly valve used to control the air flow in a pneumatic conveyor.

Blending Conveyor — *See* Paddle Type Mixing Conveyor; and Screw Type Mixing Conveyor.

Blending System — A coordinated system of conveyors and allied equipment for the purpose of blending bulk materials to obtain a product which will be uniform and homogeneous having the same physical and chemical properties as the average of the entire raw input.

Blending System Reclaimer — *See* ' Reclaimer '.

Blending System Reclaiming Conveyor — *See* ' Reclaiming Conveyor'.

Blending System Stacker — *See* ' Stacker '.

Blending System Stocking Conveyor — *See* ' Stocking Conveyor '.

Block Chain — *See* Combination Chain; and Bar Link Chain.

Block Link — *See* Centre Link.

Bolt Attachment — A trolley attachment having a threaded rod projection for attaching a load bar or various objects.

Boom — A cantilevered or overhanging member or structure that supports or contains the component parts of a conveyor. May be fixed, hinged or pivoted.

Boom Conveyor — Any type of conveyor mounted on a boom.

Booster Conveyor — Any type of powered conveyor used to regain elevation lost in gravity roller or wheel conveyor lines.

Booster Drive — An auxiliary drive at an intermediate point along a conveyor.

Boot — The casing for the loading terminal of a bucket elevator.

Boot Elevator Casing — *See* ' Casing Boot Section '.

Boot Plate — The curved plate forming the bottom of an elevator boot. (*See also* ' Bottom Plate '.)

Boot Shaft — *See* ' Foot Shaft '.

Bottle Lowering Unit — A gravity device in which units are lowered at a controlled speed within spiral guides.

Bottom Cover — The rubber cover over the carcass on the back or pulley side of the belt, usually of the same material as the top cover. (*See* ' Rubber Conveyor Belt '.)

Bottom Discharge Bucket Conveyor — A conveyor for carrying bulk materials in a horizontal path consisting of an endless chain to which roller-supported cam-operated bottom discharge conveyor buckets are attached continuously (*see* Fig. 9).

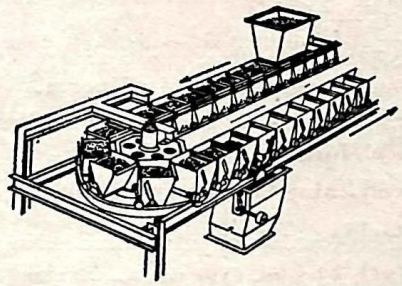


FIG. 9

Bottom Discharge Conveyor Bucket — A vessel generally rectangular or square in plan and having a bottom consisting of an undercut gate.

Bottom Plate — A flat plate closing the bottom of a bucket elevator casing boot section. (*See* ' Boot Plate '.)

Box Car Loader — Any of several types of conveyors adapted by portable or hinged mounting for use in loading bulk materials into box cars.

Some types operate at high speeds and throw the materials to the ends of the car. (*See* ' Portable Conveyor '.)

Box End — *See* ' Trough End '.

Bracing — Diagonal or horizontal members used to prevent swaying in conveyor supporting structures.

Bracket — A support usually affixed to a main member or structure for the attachment or support of an auxiliary on component part. (*See also* ' Trolley Bracket '.)

Brake — A friction device for slowing down conveyor components for bringing conveying equipment to a controlled stop; for holding travelling or traversing equipment in a selected location; for preventing reverse travel; and for controlling overspeed due to action of gravity.

Brake and Stop Feeder — One which utilizes a brake and stop mechanism to effect separation and delivery of objects.

Break-Away — *See* ' Starting Effort '.

Breaker — An extra ply or plies of fabric inserted between the top cover and first ply of carcass. Types of breakers are open weaves of cotton, rayon, nylon—either leno or cider cloth weaves. (*See also* ' Rubber Conveyor Belt ' and ' Transcord Breaker '.)

Breaker Strip — *See* ' Breaker '.

Breaking Pin Hub — *See* ' Shear Pin Device '.

Bronze Bearing — A bearing composed of bronze.

Bronze Bearing End Thrust — A screw conveyor thrust bearing consisting of a bronze washer and split steel collar.

Bronze Bearing Flanged Block — A flanged bearing block having a bronze bearing.

Bronze Bearing Pillow Block — A pillow block having a bronze bearing.

Brush, Belt Conveyor — *See* Brush Cleaner; and Rotary Belt Cleaner.

Brush Cleaner — A device consisting of bristles set in a suitable backing used for cleaning a conveyor belt. It is usually of the rotary type. (*See also* ' Rotary Belt Cleaner '.)

Bucket — *See* Centrifugal Discharge Elevator Bucket; Continuous Elevator Bucket; Elevator Bucket; Gravity Discharge Conveyor Elevator Bucket; Pivoted Bucket; Skip Bucket; Super-capacity Elevator Bucket; V-elevator Bucket; and Vented Elevator Bucket.

Bucket Continuous, Overlapping — *See* ' Continuous Elevator Bucket, Overlapping '.

Bucket Conveyor — *See* Bucket Elevator; Gravity Discharge Conveyor Elevator; and Pivoted Bucket Conveyor.

Bucket Dumper — *See* ' Bucket Tripper '.

Bucket Elevator — A conveyor for carrying bulk materials in a vertical or inclined path, consisting of an endless belt, chain or chains, to which elevator buckets are attached, the necessary head and boot terminal machinery and supporting frame or casing. (*See also* Centrifugal Discharge Bucket Elevator; Continuous Bucket Elevator; Internal Discharge Bucket Elevator; Positive Discharge Bucket Elevator; and Super-capacity Bucket Elevator.)

Bucket Elevator Belt — A belt fabricated for bucket elevator use to which elevator buckets are attached.

Bucket Elevator Boot — *See* Boot; and Casing Boot Section.

Bucket Elevator Boot Plate — *See* Boot Plate; and Bottom Plate.

Bucket Elevator Bottom Plate — *See* ' Bottom Plate '.

Bucket Elevator Bucket — *See* Centrifugal Discharge Elevator Bucket; Continuous Elevator Bucket; Elevator Bucket; Gravity Discharge Conveyor Elevator Bucket; Pivoted Bucket; Super-capacity Elevator Bucket; V-elevator Bucket; and Vented Elevator Bucket.

Bucket Elevator Casing — *See* ' Casing '.

Bucket Elevator Casing Boot Section — *See* ' Casing Boot Section '. *.

Bucket Elevator Casing Head Section — *See* ' Casing Head Section '.

Bucket Elevator Casing Hood — *See* ' Casing Hood '.

Bucket Elevator Casing Intermediate Section — *See* ' Casing Intermediate Section '.

Bucket Elevator Casing, Self-Supporting — *See* ' Self-supporting Casing '.

Bucket Elevator, Centrifugal Discharge — *See* ' Centrifugal Discharge Bucket Elevator '.

Bucket Elevator Foot — *See* Boot; and Casing Boot Section.

Bucket Elevator, Gravity Discharge — *See* ' Gravity Discharge Conveyor Elevator '.

Bucket Elevator Head — *See* Casing Head Section; and Head End.

Bucket Elevator Knuckle Shaft — *See* ' Knuckle Shaft '.

Bucket Elevator Loading Leg — *See* ' Loading Leg '.

Bucket Elevator, Perfect Discharge — *See* ' Positive Discharge Bucket Elevator '.

Bucket Elevator, Pivoted — *See* ' Pivoted Bucket Conveyor '.

Bucket Elevator, V — *See* ' Gravity Discharge Conveyor-Elevator '.

Bucket Gate — *See* ' Bin Gate '.

Bucket Guides — *See* ' Guide '.

Bucket Leveler — *See* ' Bucket Trimmer '.

Bucket Loader — A form of portable, self-feeding, inclined bucket elevator for loading bulk materials into cars, trucks, or other conveyors (Fig. 10). (*See also* Bucket Elevator; and Portable Conveyor.)

FIG. 10

Bucket Righter — A device for restoring the buckets of a pivoted bucket conveyor to the carrying position.

Bucket Trimmer — A device for levelling the material in a bucket of a pivoted bucket conveyor.

Bucket Tripper — A device that tilts or turns the buckets of a pivoted bucket conveyor causing them to discharge. May be fixed or movable.

Bucket Tripping Cam — *See* ' Tripping Cam '.

Bucket Wing — Clips or brackets on an elevator bucket for attaching to double strands of parallel chains.

Bumper — A guard or pad attached to conveyor cars or carriers to prevent damage on contact with one another; a guard or pad attached to a fixed conveyor structure, or to a car to prevent damage when the moving car contacts the structure.

Bunker — A large bin or compartment for the storage of bulk materials (*See also* ' Bin '.)

Bunker Gate — *See* ' Bin Gate '.

Bushed Chain — *See* ' Steel Side Bar Bushed Chain '.

Bushed Pintle Chain — A type of pintle chain having a bushing in the barrel of the link (*see* Fig. 11).

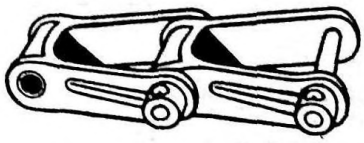


FIG. 11

Bushed Roller Chain — *See* ' Steel Side Bar Bushed Roller Chain '.

Bushing

a) *In machinery*, a removable liner fixed in a bore to improve the bearing surface.

b) *In chain*, renewable liner fixed in the barrel of a link, or centre link, to provide an improved bearing surface.

c) *In chain*, a hollow cylinder used to space the side bars and provide a bearing surface for the chain pin, and on which rollers may or may not be mounted.

Button Rope Conveyor — *See* ' Disc or Button Conveyor '.

By-Pass — A device, usually a gate, for the purpose of changing the usual direction of travel of material.

C

Cable Belt Conveyor — A belt in which the carrying section is composed of rubber and or other polymer and fabric with specially shaped moulded rubber/polymer edges. The edges rest on and are supported by metal cables which transmit the driving force, the belt merely functioning as a load supporting medium.

Cable-Can Conveyor — A type of conveyor used in can manufacturing in which the can is supported on a moving endless cable or cables operating between can guides.

Cable-Propelled Belt Tripper — A power-propelled belt tripper which receives its traversing power from a winch operated cable.

Cable-Screw Conveyor — A one-way or closed circuit conveyor of which the propelling medium is a flexible, torque transmitting cable of which

helical (screw) threads are an integral part. Loads or load carriers engage the thread and advance a distance equal to one pitch each revolution of the cable-screw.

Cable-Selvage Belt — A belt in which the carrying section is composed of rubber and fabric with attached intermittent transverse metal supports having both ends supported by cables. The cables transmit the driving force and the centre portion functions as the load-supporting medium.

Cableway — A system in which the carriers are supported by a cable and are not detached from the operating span. The travel of the carriers is wholly within the span.

Cam — A rotating disc or sliding piece having varying radii or projection so as to impart to a contacting member, variable velocity or variable motion as required. The disc, piece or projection may rotate, progress or reciprocate as desired at any predetermined rate.

Cam Shaft — A shaft on which a cam is mounted or of which a cam is an integral part.

Can Elevator — A vertical conveyor used to elevate a line of cans by rolling them upward between guides and an endless pressure belt.

Capacity — The number of pieces, volume or weight of material that can be handled by a conveyor in a unit of time when operating at a given speed. (*See also* ' Rated Capacity '.)

Capacity-Flow Conveyor — *See* ' *En Masse* Conveyor '.

Capstan — A concave cylinder for rope or cable snubbing purposes. May be an idler or powered.

Car — A wheeled carrier that receives and supports the load to be conveyed. Generally attached to chain, belt, cable, linkage or other propelling medium. (*See also* ' Tray '.)

Car Haul — A pusher chain conveyor used for moving small cars, such as mine cars, along a track. A form of tow conveyor. (*See* ' Pusher Chain Conveyor '.)

Car Haul Pushing Dog — *See* ' Pusher Dog '.

Car Haul Safety Dog — *See* ' Holdback Dog '.

Car Haul Spur — *See* ' Pusher Dog '.

Car Haul Tilting Dog — *See* ' Tilting Dog '.

Car Loader — *See* Box Car Loader; and Loading Conveyor.

Car Type Conveyor — A series of cars attached to and propelled by an endless chain or other linkage running on a horizontal or slight incline (*see* Fig. 12).

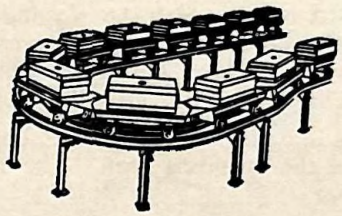


FIG. 12

Car Unloader — A form of portable drag chain, belt or flight conveyor which can be placed either beneath or over the railroad tracks for the purpose of handling bulk materials from hopper bottom cars (*see* Fig. 13). (*See also* ' Portable Conveyor. ')

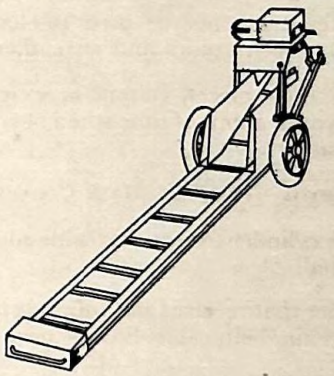


FIG. 13

Car Wash Conveyor — *See* Floor Conveyor; and Tow Conveyor.

Carcass — The tension-carrying portion of the conveyor belt. It may be comprised of multiple plies of fabric or cord, simple layers of cord or steel cable, bonded together with rubber and or other polymeric components. (*See also* ' Rubber Conveyor Belt '.)

Carpet — *See* ' Conveyor Carpet '.

Carriage — *See* ' Truck '.

Carrier

a) A device of various types attached to or hung from trolleys to support the load.

b) The receptacle in which objects are placed for transmittal through a pneumatic tube system.

Carrousel Conveyor — A continuous platform or series of spaced platforms which move in a circular horizontal path (*see* Fig. 14).

NOTE — The term ' Carrousel ' has been applied to other forms of conveyors such as car type and pallet type.

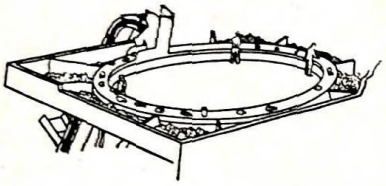


FIG. 14

Carrying Belt — The belt on the run which carries the load. (*See also* ' Carrying Run '.)

Carrying Idler

a) *In belt conveyors*, the belt idlers upon which the load-carrying portion of belting is supported.

b) *In live roller conveyors*, the rolls upon which the load is supported while being conveyed.

Carrying Roll — *In a live roller conveyor*, the roll upon which the load is supported while being conveyed.

Carrying Roller — The conveyor roll upon which the conveyor belt or the object being transported is supported.

Carrying Run — That portion of the conveyor in or on which material is conveyed.

Casing — A structure of wood, metal or other material which completely encloses the elevating or conveying machinery elements to support them, to afford safety protection, to protect from the weather, or to confine dust, gases or fumes arising from the material being conveyed; or to form a part of the conveyor in the same manner as a trough. (*See also* ' Chain Casing '.)

Casing Boot Section — The casing or housing for the loading terminal of a bucket elevator.

Casing Head Section — The section of casing at the head end of a bucket elevator or conveyor.

Casing Hood — That portion of the casing head end that encloses the head terminal.

Casing Intermediate Section — The casing between the terminal or the corner sections or both.

Cast Continuous Flight Conveyor Screw — A conveyor screw having the conveyor screw flight cast with a shaft.

Cast Sectional Flight Conveyor Screw — A conveyor screw having short sections of conveyor screw flight cast with a hub and mounted on a shaft.

Caster Bed — A group of inverted swivel casters providing easy movement of flat surfaced objects.

Caster Table — *See* ' Caster Bed '.

Caster Track — *See* ' Track '.

Catenary Idler — *See* ' Hammock Belt Idler '.

Caterpillar Chain — A short endless chain on which dogs or teeth are spaced to mesh with and move or be moved by a conveyor chain.

Caterpillar Chain Dog — A dog or tooth attached to a caterpillar drive chain to provide the driving contact with the conveyor chain.

Caterpillar Drive — A drive equipped with a caterpillar chain which engages and propells the conveyor chain.

Cellar Hoist — *See* ' Arm Conveyor '.

Central Desk — The main group of terminals in pneumatic tube systems where carriers are manually relayed from one line to another or where material in the carriers is processed or where both these actions take place.

Centre Column — A column to which the spiral chute bed is attached and supported or in the case of an open centre chute, the column by which the bed is supported by brackets which in turn are attached to the column.

Centre Drive — *See* ' Intermediate Drive '.

Centre Link — The inner link of a straight side bar chain containing the two barrels or bushings or pin holes.

Centring Table — *See* ' Skew Table '.

Centres — The distance measured along the carrying run of a conveyor from the centre of one terminal wheel or pulley to the centre of the opposite

terminal wheel or pulley; also, horizontal centres for vertical centres, the distance from the centre of one terminal or bend wheel to the centre of another one as projected on a horizontal or vertical plane.

Centrifugal Discharge Bucket Elevator — A type of bucket elevator using centrifugal discharge elevator buckets suitably spaced to permit the free discharge of bulk materials (*see* Fig. 15). (*See* Bucket Elevator; and Centrifugal Discharge Elevator Bucket.)

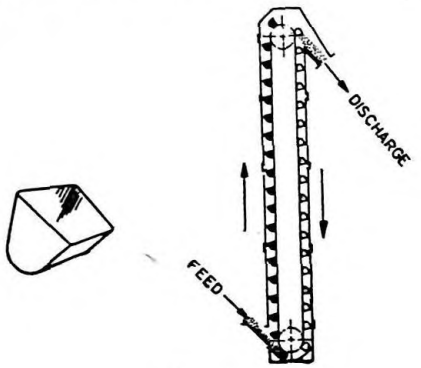


FIG. 15

Centrifugal Discharge Elevator Bucket — A bucket designed to scoop material from the boot of an elevator and discharge by reason of the combined effect of centrifugal force and gravity. Style A, AA, AA-RB, B and C are general types of centrifugal discharge elevator buckets.

Chain — A series of links pivotally joined together to form a medium for conveying or transmitting motion or power. General classes of chains common to the conveyor art are: detachable, pintle, combination, roller, rivetless, coil, inverted tooth and bar link chains.

Chain Attachment — That adjunct of the chain that is used to connect it to the load-carrying medium or to that which is propelled.

Chain Barrel — That portion of a cast chain link that joins and is between the side bars at the pivot point, the inside of which forms the live bearing seat for the pin and the outside of which provides the contact surface for or with the wheel.

Chain Casing — An enclosure usually fitted with sealing washers or glands to keep out foreign material and prevent the escape of lubricant.

Chain Conveyor — *See* Drag Chain Conveyor; Rolling Chain Conveyor; Sliding Chain Conveyor. Sometimes synonymous with ' Trolley Conveyor '.

Chain Curtain Feeder — A power-operated curtain of endless lengths of chain, resting on and retarding the flow of bulk materials in an inclined chute (*see* Fig. 16).

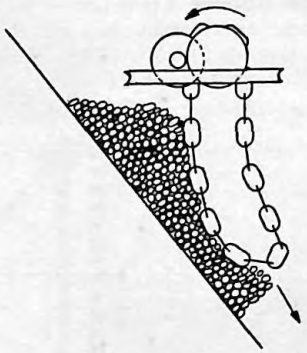


FIG. 16

Chain Drive — A power transmission device employing a drive chain and sprocket wheels.

Chain Elevator — *See* ' Bucket Elevator '.

Chain Feeder — *See* ' Conveyor Type Feeder '.

Chain Guard — A covering or barricade for drive or conveyor chains for safety purposes. May enclose fully or only guard at the points of danger.

Chain Guard, Lubricating — *See* ' Chain casing '.

Chain Guides — *See* ' Guide '.

Chain Joint — The parts that form the pivoting portion of the chain (pins, bushings, barrels and rollers).

Chain or Wire Rope Belt Conveyor — A conveyor composed of a belt secured to transverse and supports carried by moving chains or wire ropes. The chains or wire ropes transmit the driving force, the belt forming the load-carrying medium.

Chain Pin — The pintle that is used to connect succeeding links and upon which or about which the links pivot.

Chain Pitch — *See* ' Pitch '.

Chain Pull, Effective — *See* ' Horsepower Pull '.

Chain Tension — The actual force existing at any point in a conveyor chain.

Chain-Selvage Belt — A belt in which the carrying section may be made up of rubber or fabric, woven metal, or other material and along each edge of which is fastened an endless chain with a suitable attachment. The chains carry the driving tension. The centre part functions only as a loading supporting medium.

Chassis — *See* ' Truck '.

Chassis Assembly Conveyor — *See* ' Assembly Conveyor '.

Check Valve, Rotary Bin — *See* ' Rotary Bin Check Valve '.

Choke Feed — A feeding arrangement in which the potential rate of supplying material at the feed point exceeds the rate at which the conveyor will remove material.

Chop Feeder — A feeder in which a power-operated, swinging quadrant gate delivers material at a predetermined rate. The action is similar to the reciprocating plate feeder.

Chute — An open top trough through which bulk materials or objects are directed and lowered by gravity. The trough may be straight or curved.

Chute Pneumatic — *See* ' Pneumatic Chute or Spout '.

Circular Bin Discharger — A revolving cone with feeder fingers around the base periphery connected at the apex through a universal joint to a revolving arch breaker arm.

Circulating Load — Material, packages or objects that remain in or on a conveyor by virture of not being discharged or removed from it.

Clam Shell Gate — *See* Bin Gate; and Double Quadrant Gate.

Cleanout Box — A receptacle in a floor conveyor for the purpose of gathering and removal of debris.

Cleanout Door — A name used to describe or indicate a cover and opening in a conveyor or elevator housing.

Cleanout Flight (of an en masse conveyor) — A special flight incorporated in a series of standard flights to assist in emptying the casing of material after feeding stops.

Clear Margin — A narrow strip along each edge of the conveyor belt that is left clear and not used for load carrying. This clear margin prevents spillage by providing an area to contain any load displacement resulting from passing over bend pulleys, trippers, head pulleys, and from belt sag between idlers.

Cleat — An attachment fastened to the conveying medium to act as a pusher, support, check or trip, etc, to help propel material, parts or packages

along the normal path of conveyor travel. May be of various sizes and shapes to suit the application.

Clevis Attachment — A forked or clevis type trolley attachment.

Clevis Pin Attachment — A forged chain pin with a clevis on one end used for supporting light loads from a trolley conveyor chain between trolleys.

Closed Belt Conveyor — Moving, endless, flexible belt, or belts, which may be formed into a tubular shape by joining of edges, and which are opened while in motion to receive load, closed to convey or elevate, and opened to discharge (*see* Fig. 17).

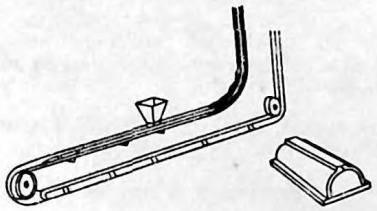


FIG. 17

Closed Circuit — An arrangement of a conveyor or conveyors capable of moving material through all portions of the circuit and returning the undistributed portion to the starting point.

Clutch — A device to permit engagement or disengagement of equipment while in motion or at test. Operation can be manual or automatic. A clutch connecting two shafts end-to-end is called a cut-off coupling. A clutch with an extended sleeve on which a pulley, sprocket, gear or other power transmission device is mounted and which runs freely on the supporting shaft when disengaged is called a sleeve clutch. (*See also* Friction Clutch; and Jaw Clutch.)

Coal Pocket — An arrangement of bins to load trucks by gravity.

Coefficient of Friction — A numerical expression of the relationship between pressure and the resistance force of friction. This relationship is subject to many variables such as whether it is applied to holding friction sliding friction, rolling friction, or internal friction of a bulk material whether the surfaces in contact are smooth or rough, the kind of material composing those surfaces, if they are wet or dry, lubricated or nonlubricated.

The coefficient of friction is used in determining the power necessary to drive a machine; to determine the slope angles used in hoppers, bins

chutes, and bunkers; or to determine the maximum angle of inclination for a conveyor.

Coil Chain — A chain having links of round or flat bar steel formed into loops and made interlocking as the chain is manufactured.

Coil Conveyor — Any of several types of conveyors adapted to carrying coils of metal strip or other annular objects.

Coil Loader — A mechanical device for loading coils of metal strip and other annular objects onto an adjacent conveyor.

Coil Tilter — *See* ' Side Tilter '.

Coil Unloader — A mechanical device for removing coils of metal strip and other annular objects from an adjacent conveyor.

Collar — A device used for positioning shafts or other machine parts. (*See also* ' Conveyor Screw Collar '.)

Combination Chain — A straight side bar chain consisting of alternately spaced cast centre links and flat steel side bars connected by means of chain pins (*see* Fig. 18).

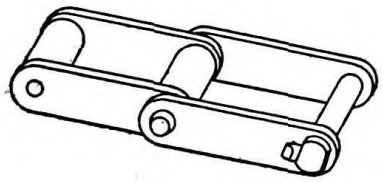


FIG. 18

Combined Run — A portion of conveyor in which the carrying and return runs are adjacent in a casing having a common partition plate.

Compound — The term applied by manufacturers to the mix containing polymer (rubber or plastic) and other ingredients which are compounded and used in conveyor belt production.

Concentrator Roll — The inclined roll of a troughing belt idler.

Conical Sorting Table — *See* ' Carrousel Conveyor '.

Constant Speed Drive — A drive with no provision for variable speed.

Continuous Bucket Elevator — A type of bucket elevator where the buckets are set at close pitch (*see* Fig. 19). The sides of the buckets are made to overlap thus forming a continuous trough.

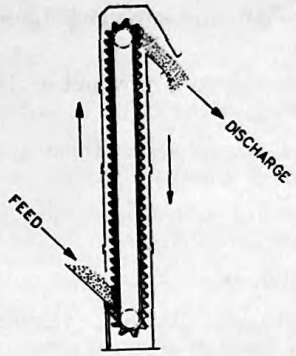


FIG. 19

Continuous Checking Scale — A device which automatically weighs a continuous moving length or stream of material, or an intermittent series of individual items passing over the scale.

Continuous Elevator Bucket — A bucket having sides projecting beyond the front and which when spaced continuously with other buckets forms a chute for the material discharged by the following bucket as they pass over the elevator head wheel. High front, Medium front and Low front are terms used to designate continuous buckets having a relatively small or large included angle between the front and back.

Continuous Elevator Bucket, Overlapping — A continuous bucket the depth of which is greater than the spacing of the buckets on chain or belt, thus providing an overlap on the straight runs. The back of the bucket at the discharge end fits between the flanges on the front of the preceding bucket.

Continuous Stream Conveyor — *See* ' *En Masse* Conveyor '.

Continuous Weigh Feeder — A device which automatically controls (on a weight basis) the rate of feed of a continuous stream of material to a process. (*See* ' Automatic Conveyor Scale '.)

Control — A device for starting, stopping on selecting variable speeds for conveyors or for actuating conveyor components. Can be manual, electric, hydraulic or pneumatic operation.

Controlled Gravity Conveyor — *See* ' Controlled Velocity Roller Conveyor '.

Controlled Velocity Roller Conveyor — A roller conveyor having means to control the velocity of the objects being conveyed. (*See* ' Roller Conveyor '.)

Converging Control — *See* ' Traffic Control '.

Converging Section — A section of roller or wheel conveyor where two conveyors meet and merge into one conveyor.

Conveying Element — *See* ' Conveying Medium '.

Conveying Medium — That portion of a conveyor that moves or carries materials, packages, or objects.

Conveyor — A horizontal, inclined, or vertical device for moving or transporting bulk materials, packages, or objects in a path predetermined by the design of the device and having points of loading and discharge fixed, or selective; included are skip hoists and vertical reciprocating conveyors; industrial trucks, tractors and trailers, tiering machines (truck type), cranes, hoists, monorails, power and hand shovels, power scoops, bucket drag lines, platform elevators designed to carry passengers or the elevator operator, and high way or rail vehicles are not included.

Conveyor Belt — A belt used to carry materials and transmit the power required to move the load being conveyed. *See* Cord conveyor belt; Interwoven conveyor belt; Rubber conveyor belt; Solid woven conveyor belt; Steel band belt; Steel cable conveyor belt; Stitched canvas conveyor belt; Wire mesh conveyor belt.

For terms applying to conveyor belts, *see* Bottom Cover; Breaker; Carcass; Compound; Cover; Cover Quality; Duck; Friction; Maximum Belt Tension; Maximum Operating Belt Tension; Mildew Resistance; Minimum Plies; Pitch; Ply; Ply Adhesion; Ply Arrangement; Ply Tensile; Sag Belt Tension; Skim Coat; Slack Side Belt Tension; Slip; Starting Belt Tension; Step Pad; Step Ply; Takeup Belt Tension; Tight Side Belt Tension; Top Cover; and Transcord Breaker.

Conveyor Belt Friction — *See* ' Friction '.

Conveyor Belt Pitch Line — *See* ' Pitch '.

Conveyor Belt Sag — *See* ' Sag '.

Conveyor Belt Stretch — *See* ' Stretch '.

Conveyor Belt Troughability — *See* ' Troughability '.

Conveyor Carpet -- A flexible resilient surface of a moving walk on which passengers ride, which does not transmit any pulling force but which is attached to the pulling medium.

Conveyor Chain — A chain used in the conveying medium of conveyors.

Conveyor Frame — *See* ' Frame '.

Conveyor Jack — *See* ' Jack '.

Conveyor Scale — *See* Automatic Conveyor Scale; Continuous Checking Scale; and Continuous Weigh Feeder.

Conveyor Screw — A continuous spiral flight encircling and fastened to a shaft lying within a horizontal or inclined trough. The rotation of the flights pushes the materials forward. *See* Cut flight conveyor screw; Cut-and-folded conveyor screw; Helicoid flight conveyor screw; Paddle conveyor screw; Ribbon flight conveyor screw; Sectional flight conveyor screw.

Conveyor Screw Bushing — *See* ' Conveyor Screw Collar '.

Conveyor Screw Collar — A short piece of pipe or tubing fitted to the outside or inside of each end of a conveyor screw pipe.

Conveyor Screw Coupling — A short piece of round shaft provided with a journal and bolt holes for connecting adjoining sections of conveyor screw.

Conveyor Screw Flight — The material propelling media of a conveyor screw in the form of a steep angle helix suitable for mounting on a pipe or shaft.

Conveyor Screw Flight Pitch — *See* ' Pitch '.

Conveyor Screw Lug — A small formed, forged or cast piece used to support or secure conveyor screw flights to the shaft or pipe.

Conveyor Speed — *See* ' Speed '.

Conveyor Type Feeder — Any conveyor such as apron, belt, chain, flight, pan, oscillating, screw, or vibrating, adapted for feeder service. (*See also* ' Feeder '.)

Conveyor-Elevator — A conveyor which follows a path part of which is substantially horizontal or on a slope less than the angle of slide of the material and part of which is substantially vertical or on a slope steeper than the angle of slide.

Cooling Conveyor — A conveyor adapted for continuously cooling material or objects while conveying through a gaseous or liquid cooling agent (*See also* Apron Conveyor; Belt Conveyor; Bucket Elevator; Oscillating Conveyor; Screw Conveyor; Slat Conveyor; Trolley Conveyor; and Vibrating Conveyor.)

Cord Conveyor Belt — A rubber conveyor belt in which the carcass is composed of a single ply, or multiple plies of cotton or synthetic cords acting as longitudinal tension-carrying members in combination with plies of fabric to provide transverse strength and hold the cords together.

Core (Spiral Chute) — *See* ' Centre Column '.

Core Type Spiral Chute — A spiral chute having a centre core or column about which it is fabricated, with the core serving as the inside guard.

Corner Shaft — The shaft used at the point where a change of direction of less than 180° occurs in a conveyor.

Corner Sprocket Drive — A driving unit located at a corner turn of 90° or more.

Corner-Fastened Tray Conveyor — *See* ' Suspended Tray Conveyor '.

Corner-hung Tray Conveyor — *See* ' Suspended Tray Conveyor '.

Cottered Chain — Any chain in which one or both ends of the pins are provided with holes normal to their axis for the insertion of cotters or pins to hold the parts of a chain together.

Countershaft — An intermediate or secondary shaft between the drive shaft of a conveyor and the source of power.

Countershaft Box End — *See* ' Countershaft Trough End '.

Countershaft Trough End — A trough end of a screw conveyor fitted with a right angle drive consisting of a pair of gears, either bevel or miter (*see* Fig. 20). Gears may be open or enclosed.

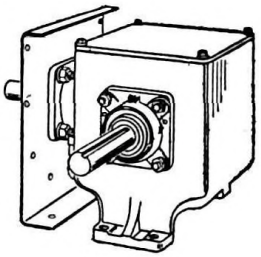


FIG. 20

Counterweight — Any weight used to balance or impose a load.

Counterweighted Takeup — A takeup mechanism where the adjustment is made automatically by the potential energy in weights.

Coupler — *See* ' Coupler Link '.

Coupler Link — A link designed for more readily connecting sections of chain.

Coupling — *See* Conveyor Screw Coupling; Dry Fluid Coupling; Flexible Coupling; Fluid Coupling; Torque Limiting Coupling; and Universal Coupling.

Cover — The rubber cover of a conveyor belt applied to the top and bottom surfaces of the carcass for abrasion resistance or protection for the carcass.

Cover Adhesion — *See* ' Cover Quality '.

Cover Gauge — The thickness of the rubber cover over the carcass of a conveyor belt.

Cover Quality — One of several grades of belt conveyor compounds recommended to meet specific service conditions.

Cover Tensile — *See* ' Cover Quality '.

Cradle Type Tilter — *See* ' Side Tilter '.

Crank — An arm attached at right angles to a shaft by which rotary motion is converted to reciprocating motion or *vice versa.*

Crankshaft — A shaft which supports a crank or is itself shaped to embody a crank.

Crawler Truck — A conveyor mobile mounting consisting of a track-laying type truck.

Creep — The action of a belt in alternately losing speed on the driving pulley because of contraction in length due to lowered tension when leaving, and gaining speed on the driven pulley because of stretching caused by the tight side tension.

Cross Bar — A transverse or lateral member, with respect to the line of travel of chain, of various shapes or sections used to space or tie together spaced parallel strands of chain.

Cross Bar Conveyor Elevator — A type of conveyor elevator having endless chains supporting spaced cross members from which materials are hung or suspended while being processed (*see* Fig. 21).

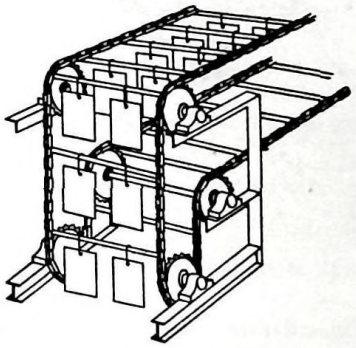


FIG. 21

Cross Rod — A cross bar of cylindrical shape.

Cross-Section of Load — The cross-sectional area of the theoretical load of bulk material on a conveyor.

Crown Face Pulley — A pulley which tapers equally from both ends toward the centre, the diameter being greatest at the centre.

Crusher — A device to break up large pieces into smaller pieces.

Cup, Elevator — *See* ' Elevator Bucket '.

Curved Slide Gate — A slide gate having a gate plate shaped to fit the lower contour of a screw conveyor trough (*See* ' Rack and Pinion Gate '.)

Cushion Idler — *See* ' Impact Belt Idler '.

Cut Flight Conveyor Screw — A type of conveyor screw with a section or sections notched from each pitch (*see* Fig. 22).

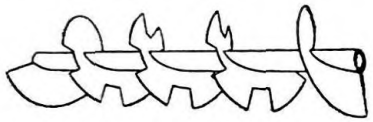


FIG. 22

Cut-And-Folded Flight Conveyor Screw — A type of conveyor screw with a section or sections of each pitch cut and folded back (*see* Fig. 23).

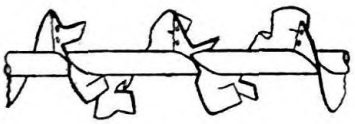


FIG. 23

Cut-Off Bin Gate — *See* ' Overcut Gate '.

Cycle Feeder — One which receives and separates groups of objects from two or more storage lines and delivers them in fixed cycles of time or number.

D

Decking — A protective covering over the return run of a belt conveyor.

Declining Conveyor — A conveyor transporting down a slope. (*See also* ' Retarding Conveyor '.)

Deflector — A device across the path of a conveyor placed at the correct angle to deflect objects or discharge bulk material. Also called a ' Plow '.

Delivery Table

a) A conveyor which transports material from the discharge of a machine.

b) A table to which a chute discharges.

Depalletizer — *See* ' Pallet Unloader '.

Detachable Chain — A chain in which each link is of single piece construction, having the pin, side bars and barrel of book shape construction cast or formed integral (*see* Fig. 24). The links of this type chain may be coupled or uncoupled sidewise after rotation out of normal operating position.

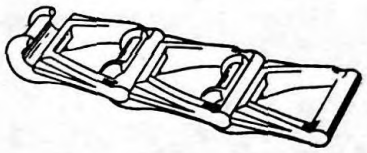


FIG. 24

Detachable Type Chain — Any chain in which the links may be separated or joined without damage to the parts.

Detwatering — The process in which solid material either submerged or containing liquid is conveyed or elevated in a manner which allows the liquid to drain off while the solid material is in transit.

Differential Curve — A curved section of roller conveyor having a conveying surface of two or more concentric rows of rollers.

Digger Edges — The formed serrated edges of the buckets used for digging purposes on a bucket loader.

Digger Tools — The formed tools, interspaced with the buckets of a bucket loader to aid in digging action.

Dipping Conveyor — A conveyor adapted for dipping materials or objects for continuous processing while being conveyed.

Disc Feeder — *See* ' Rotary Table Feeder '.

Disc or Button Conveyor — A series of buttons or flights attached to an endless wire rope chain for the purpose of conveying or retarding the movement of bulk materials or objects along a stationary trough.

Discharge Chute — A chute used to receive and direct material or objects from a conveyor.

Discharge Plate — A plate onto which loads are deposited by a conveyor prior to removal. (*See* ' Unload Plate '.)

Discharge Station — A mechanism by which bulk materials or objects are removed from a conveyor.

Discharge Terminal — *See* ' Discharge Valve '.

Discharge Trough End — A trough end of a screw conveyor having an open area below the bearing.

Discharge Valve — A device to permit automatic ejection of carriers from a system of pneumatic conveyor tubes.

Dishpan Idler — *See* ' Spool Idler '.

Diverging Section — A section of roller or wheel conveyor which makes a connection for diverting articles from a main line to a branch.

Diverter — *See* ' Deflector '.

Dock Leg — *See* ' Marine Leg '.

Dock Spout — A spout made hinged at its upper end to compensate for the varying positions of the ship because of the loading or the tides, and with lower end arranged to telescope on upper section to vary the length.

Dolly — *See* ' Car' .

Double Acting Feeder — One which operates a hold-back device with stop and release mechanisms linked to one power connection.

Double Arm Pulley — A pulley with two sets of spokes on one or two hubs.

Double Beaded Apron Pan — An apron pan having a bead along each edge, one being larger than the other so that adjacent pans are interlocked by the larger bead overlapping the smaller.

Double Chute — A chute having a longitudinal divider member resulting in two chutes in one. The divider member can be arranged so that the chutes are side by side or one above the other.

Double Flight Conveyor Screw — A conveyor screw having two conveyor screw flights mounted 180° apart on the pipe or shaft. The axial distance between adjacent flights is equal to one-half the pitch of the conveyor screw flight.

Double Helical Bag Conveyor — Closely spaced parallel tubes with right and left hand rounded helical threads rotating in opposite directions on which bags or other objects are carried while being conveyed (*see* Fig. 25).

Double Leg Bucket Elevator — A type of bucket elevator having the carrying and return runs enclosed in separate casings between the head and boot. (*See* ' Bucket Elevator '.)

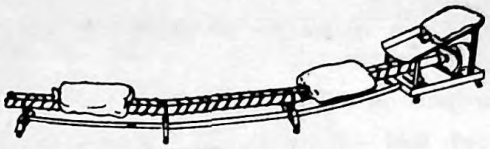


FIG. 25

Double Leg *En Masse* Conveyor — An *en masse* conveyor or elevator in which the carrying and return runs are operated in separated parallel and adjacent casings.

Double Pitch Chain — A roller chain having double the pitch, but utilizing the same joint members as a standard pitch chain.

Double Quadrant Gate — A type of quadrant gate in which two parallel cylindrical segments rotating in opposite directions through the arcs of circles form the mechanism by which the flow of material may be controlled or shut off entirely (*see* Fig. 26). The two segments are connected by means of gear segments or linkage so that both may be actuated simultaneously by a single operating lever, handwheel or other mechanism.

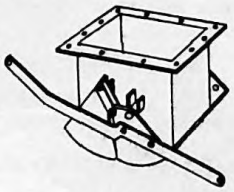


FIG. 26

Down-Ender — A device used to rotate an object from a position on its end to a position on its side. (*See also* ' Up-Ender '.)

Drag Bar or Drag Link (Scraper) Conveyor — A conveyor having one or more chains equipped with scraper bars and operating in a trough (*see* Fig. 27).

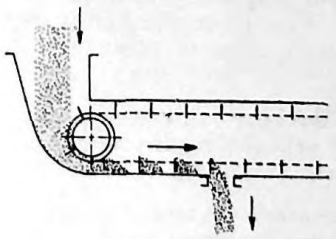


FIG. 27

Drag Bar Feeder — A shortened form of scraper conveyor used for extracting and controlling material from hoppers (*see* Fig. 28).

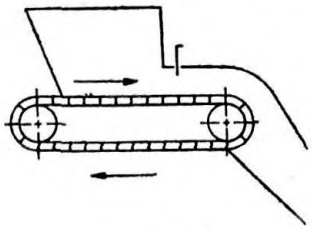


FIG. 28

Drag Chain Conveyor — A type of conveyor having one or more endless chains which drag bulk materials in a trough (*see* Fig. 29).

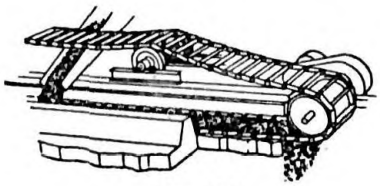


FIG. 29

Drag Conveyor, Portable — *See* ' Portable Drag Conveyor '.

Dribble — Material which adheres to the conveying medium and, being carried beyond the discharge point, drops off along the return run.

Drive — An assembly of the necessary structural, mechanical, and electrical parts which provides motive power to a conveyor.

Drive Belt — A belt which is used to transmit power or motion from one part to another.

Drive, Booster — *See* ' Booster Drive '.

Drive Chain — A chain used in a chain drive for transmitting power.

Drive, Constant Speed — *See* ' Constant Speed Drive '.

Drive Frame — The structure which supports the assembly of pulley or sprocket(s) and machine parts, and which contains or supports the motive power; or supports the assembly to which the motive power is connected. (*See also* ' Frame '.)

Drive Loss — The power used to overcome friction in transmission machinery between the prime mover and the conveyor drive shaft.

Drive Pit — A pit in which the conveyor drive is located.

Drive Pulley — A pulley mounted on the drive shaft that transmits power to the belt with which it is in contact.

Drive Shaft

a) Main driving shaft on which the drive and conveyor sprocket wheels or pulleys are mounted. This shaft is connected to the drive unit through a coupling, sprocket wheel, gear or other form of mechanical power transmission.

b) A shaft used to support the end of a conveyor screw in a trough end and as a driving connection between a conveyor screw and the power transmitting medium.

Drive Sheave — That sheave to which the motive power is connected.

Drive Sprocket Wheel — Either sprocket wheel of a chain drive.

Drive Terminal — The terminal at which the drive is located.

Driven Roll — *In live roller conveyors*, any carrying roll driven by belting, chain or other propelling medium.

Driven Sprocket Wheel — A sprocket wheel which is propelled by the chain.

Driver Sprocket Wheel — A sprocket wheel which propels the chain.

Drop

(a) The distance from the top of a bearing hanger to the centre of the shaft.

(b) In a trolley conveyor, the vertical distance from the bottom of the track to centre line of the chain.

(c) *See* ' Pitch '.

Drop Hanger — A malleable iron or steel support fastened from an overhead framework to position and bear loads. The term is usually used for belt conveyor return idler supports.

Drop Leaf Tilter — *See* ' Side Tilter '.

Drum — A cylindrical or polygonal rim type of wheel around which cable, chain, belt, or other linkage may be wrapped. A drum may be driven or driving. The face may be smooth, grooved, fluted, or flanged.

Drum Bend Corner (of an *en masse* conveyor) — A section of casing to change direction of conveying in which the moving element is carried on the rim of a revolving drum.

Drum Feeder — *See* ' Roll Feeder '.

Dry Fluid Coupling — A device similar in function and operation to a fluid coupling. A quantity of metallic shot provides the variable resistance as the driven machine comes up to speed.

Dual Drive — A double drive where two sets of driving terminals are used to propel the conveyor.

Dual Pulley Drive — A double drive where two sets of driving terminals and power sources are used to propel the conveyor belt.

Duck — A fabric material of woven cotton and/or synthetic fibres used in a conveyor belt carcass as the tension bearing medium. Duck is manufactured in several grades and types expressed in terms of weight per unit area. General higher longitudinal strength in the duck is provided having heavier yarns and greater counts in the longitudinal warp threads than the transverse filler threads.

Duct — *See* ' Tube '.

Dummy Attachment — *See* ' Idler Attachment '.

Dump Gate — A quick acting gate usually used to charge measured batches of materials.

Duplex Gate — *See* ' Double Quadrant Gate '.

Dust Seal Gland — *See* ' Seal Gland '.

Dwell Station — An unpowered portion in an intermediate length of a live roller conveyor or belt conveyor upon which objects may be held for processing or other purposes.

E

Easel Stand — A foldable support.

Eccentric — A disc mounted out of centre on a shaft and used to convert rotary motion to reciprocating motion.

Eccentric Shaft — A shaft upon which an eccentric is mounted.

Effective Belt Tension — That portion of the total tension in a conveyor belt effective in actually moving the loaded belt. It is often referred to as ' Horsepower Pull '. Effective tension is the difference between ' Tight Side Belt Tension ' and ' Slack Side Belt Tension '. The components which become ' effective tension ' when added together include the effort to

move the load, the effort to rotate the idlers, any snub or bend pulleys, and the takeup assembly, to over come the resistance created by any sag of the belt between idlers or the internal resistance of the material as it is displaced slightly when passing over the idlers, to operate a tripper if the conveyor is discharged by such means, and to lift the material if the conveyor is inclined upward from the loading point.

Effective Chain Pull — *See* ' Horsepower Pull '. Not to be confused with ' Chain Tension '.

Ejector — *See* ' Exhauster '.

El Conveyor — A trough type roller or wheel conveyor consisting of two parallel rows of rolls or wheels set at a 90° included angle, with one row providing a sloped carrying surface and the other acting as a guard. (*See also* Roller Conveyor; and Wheel Conveyor.)

Elastic Stretch — *See* ' Stretch '.

Electromagnetic Pulley — *See* ' Magnetic Pulley '.

Electronic Feeder — An electronically-controlled feeder which functions to separate and deliver objects in response to variations in colour, light, temperature, sound or matching image.

Elevating Conveyor — Any conveyor used to discharge material at point higher than that at which it was received. Term is specifically applied to certain underground mine conveyors.

Elevator — *See* ' Bucket Elevator ' ; and Vertical Reciprocating Conveyor.

Elevator Boot — *See* Boot; and Casing Boot Section.

Elevator Bucket — A bucket generally rectangular in plan and having a back suitably shaped for attachment to a chain or belt and a bottom or front designed to permit discharge of material as the bucket passes over the head wheel of a bucket elevator. (*See also* Centrifugal Discharge Elevator Bucket; Continuous Elevator Bucket; Gravity Discharge Conveyor-Elevator Bucket; Pivoted Bucket; Super-Capacity Elevator Bucket; V-elevator Bucket; Vented Elevator Bucket.)

Elevator Cup — *See* ' Elevator Bucket '.

Emergency Stop Button

a) An electrical push button located in the vicinity of a passenger conveyor, especially at each entrance or exit point, to allow the general public to stop the unit in case of emergency.

b) An emergency stop device which may be applied to any type of power driven conveyor.

***En Masse* Conveyor** — A conveyor comprising a series of skeleton or solid flights on an endless chain or other linkage which operates in horizontal, inclined, or vertical paths within a closely fitted casing for the carrying run (*see* Fig. 30). The bulk material is conveyed and elevated '*en masse*' in a substantially continuous stream with a full cross-section of casing.

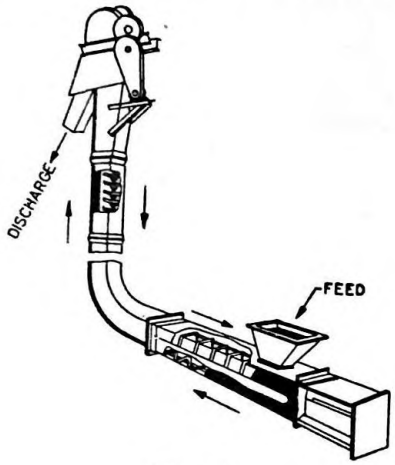


FIG. 30

***En Masse* Feeder** — *See* 'Conveyor Type Feeder'.

Enclosed Spiral Chute — A spiral chute with an integrally fabricated outer enclosure.

End Shaft — A shaft used to support the nondrive end of a conveyor screw in a trough end.

End Thrust — *See* Ball Bearing End Thrust; Bronze Bearing End Thrust; and Roller Bearing End Thrust.

Entry Conveyor — *See* Underground Mine Conveyor; and Entry Table.

Entry Table — A conveyor which transports material to the feeding position of a machine.

Equalizing Gear — A gear with a varying pitch diameter designed to compensate for the varying pitch line velocity of a long pitch conveyor chain as it passes around a sprocket.

Escalator — *See* 'Moving Stairway'.

Escalator, Pouring — *See* Moving Walk; and Slat Conveyor.

Escapement Feeder — A stop-feeder device for indexing, spacing, or controlling packages.

Exhauster — A vacuum producing assembly consisting of venturi tube with water, air, or stream nozzles; also mechanical air handling unit.

Exit Table — *See* ' Run-out Table '.

Expansion Joint — *In conveyors*, a joint construction arranged to permit sliding of jointing members, yet providing continuity of support for the conveying medium. Its purpose is to accommodate change in length caused by expansion or contraction, chain slack or takeup movement.

Extendable Conveyor

a) *For bulk materials*, usually of troughed design and may be lengthened or shortened while in operation. Commonly used in underground mine conveyor work.

b) *For packaged materials, objects, or units*, one of several types including roller, wheel, and belt conveyors. Construction is such that conveyor may be lengthened or shortened within limits to suit operating needs.

Extended Pin — A pin which extends beyond the chain on one or both sides.

F

Face

a) The principal frontal surface presenting the greatest area such as the face of a pile of material, the point at which material is being mined, etc.

b) The outer surface of a pulley in contact with a belt; the outer surface of a gear, roll, or drum usually expressed in terms of inches of width.

Face Conveyor — *See* ' Underground Mine Conveyors '.

Face Cover — *See* ' Top Cover '.

Factor of Safety — *See* ' Safety Factor '.

Fall — *See* ' Pitch '.

Farm Elevator — A term applied to any of several types of inclined, portable or fixed conveyors adapted for use on farms to store and move grains, corn, ensilage and other materials. (*See* Belt Conveyor; Drag Chain Conveyor; Flight Conveyor; and Screw Conveyor.)

Feed Hopper — *See* ' Hopper '.

Feed Table — *See* ' Entry Table '.

Feeder — A conveyor adapted to control the rate of delivery of bulk material, packages or objects, or a device or mechanism which controls, separates or assembles objects. Types of feeders include:

Apron Feeder
Automatic Feeder
Bag Feeder
Belt Feeder
Bifurcating Feeder
Brake-and-Stop Feeder
Chain Curtain Feeder
Chain Feeder
Chop Feeder
Continuous Weigh Feeder
Conveyor Type Feeder
Cycle Feeder
Disc Feeder
Double Acting Feeder
Drag Bar Feeder
Electronic Feeder
En Masse Feeder
Escapement Feeder
Flight Feeder
Hinged Feeder
Jaw Feeder
Kick-Off Feeder
Lifting Feeder
Magnetic Feeder
Manganese Feeder
Merging Feeder
Oscillating Feeder
Paddle Wheel Feeder
Pan Feeder
Peel-Off Feeder
Plate Feeder
Plunger Feeder
Reciprocating Beam Feeder
Reciprocating Feeder
Rocking Feeder
Roll Feeder
Roll-Over Feeder
Rotary Feeder
Rotary Table Feeder
Rotary Vane Feeder
Screw Feeder
Scroll Feeder
Selective Feeder
Spider Feeder
Star Feeder
Star Wheel Feeder
Swing Arm Feeder
Switch Feeder
Turn-Over Sheet Feeder
Vacuum Cup and Roller Slat Feeder
Vacuum Cup Feeder
Vari Stroke Feeder
Vibrating Feeder

Feeder and Catchers Tables — A pair of reversible conveyors, entry and exit, which provide for repeat feeding of metal being processed through a rolling mill.

Festoon Conveyor — *See* ' Cross Bar Conveyor '.

Finger Elevator — *See* ' Arm Conveyor '.

Finger Lift — *See* ' Arm Conveyor '.

Finished Roller Chain — *See* ' Transmission Roller Chain '.

Fire Door Switch — A hinged hatchway type door for spiral chutes which also serves as an intermediate discharge plate when closed to a horizontal position.

Fixed Tray Lift — *See* ' Arm Conveyor '.

Fixed Tripper — A tripper which is permanently established in location rather than traversible.

Fixture — A device or attachment fastened to or propelled by the conveying medium, used for supporting or securing objects being processed as they are conveyed.

Fixture Conveyor — Usually a slat or apron conveyor on which are mounted ' pedestals ' or fixtures for mounting loads such as engine blocks.

Flame Cutting Table — Any conveyor which supports and conveys metal plates or shapes at a controlled speed past a flame cutting head. The table or conveyor usually takes the form of a carrousel or disc.

Flanged Bearing, Babbitted — *See* ' Babbitted Flanged Block '.

Flanged Bearing Block — A bearing block having a mounting surface in a plane normal to the axis of the shaft.

Flanged Wheel — A wheel equipped with a flange on one or both sides.

Flat Belt — A belt of approximately rectangular cross-section the width of which is considerably greater than its thickness.

Flat Belt Conveyor — A type of belt conveyor in which the carrying run of the conveyor belt is supported by flat belt idlers or by a flat surface.

Flat Belt Conveyor, Portable — *See* Flat Belt Conveyor; and Portable Conveyor.

Flat Belt Idler — An idler consisting of one or more rolls supporting the belt in a flat position.

Flat Slide Gate — A gate having a sliding gate plate that is flat.

Flat Top Chain — *See* ' Hinge Joint Type Chain '.

Flat Top Conveyor — Special slat conveyors which form a continuous top and are supported with large chain rollers. These conveyors are usually erected in two parallel lines straddling an inspection pit for automobile final assembly (*see* Fig. 31). (*See* Assembly Conveyor; and Pallet Type Conveyor.)

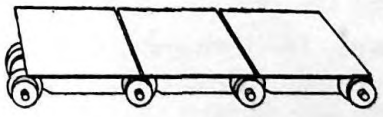


FIG. 31

Fleeting Sheave — A sheave that floats axially with the rope to provide a fair lead into a winding drum.

Flexible Coupling — A device for connecting two rotating shafts and designed to accommodate a limited degree of parallel and angular misalignment.

Flexible Curve — A flexible section of roller or wheel conveyor which can be conveniently adapted to varying degrees of curvature.

Flexible Tube Bin Valve — Valve consisting of a flexible, nonmetallic tube secured at the upper end in a fixed position at the bottom of the bin and secured at the lower end to a rotating ring which twists the tube until complete closure is obtained.

Flexing — The bending of the conveyor belt which takes place as it wraps around the pulleys. The ply nearest the face of the pulley is under the minimum stress and the ply farthest from the face is under the maximum stress. Flexing stresses increase with a decrease in pulley diameters.

Flight

a) Plain or shaped plates suitably made for attachment to the propelling medium of a flight conveyor. (*See also* Conveyor Screw Flight; Helicoid Flight; and Sectional Flight.)

b) *A term sometimes applied to one conveyor in a tandem series.*

Flight Attachments — The parts assembled to the flights that are used to connect them to the conveyor chain or chains.

Flight Conveyor — A type of conveyor comprising one or more endless propelling media, such as chain, to which flights are attached and a trough through which material is pushed by the flights (*see* Fig. 32).

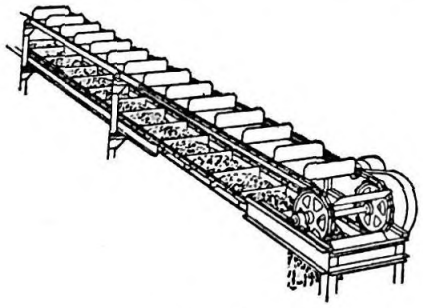


FIG. 32

Flight Feeder — *See* ' Conveyor Type Feeder '.

Floating Drive — A conveyor drive having springs or other means to resist and to compensate for variations in chain pull caused by starting or other load peaks and usually having provisions for stopping in case of an overload.

Floor Conveyor — Any of several types of conveyors using chain, cable or other linkage mounted near or flush with the floor for the purpose of assembling, or finishing built-up products and subassemblies (*see* Fig. 33). (*See* Car Type Conveyor; Pallet Type Conveyor; and Slat Conveyor.)

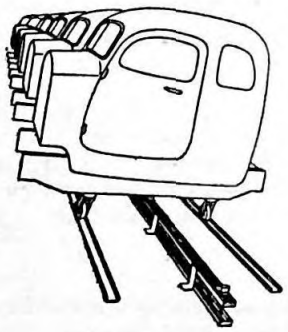


FIG. 33

Floor Conveyor Car — *See* ' Car '.

Floor Conveyor Caster Track — *See* ' Track '.

Floor Conveyor Rider Plate — *See* ' Rider Plate '.

Floor Conveyor Wishbone — *See* ' Wishbone '.

Floor Plates — Plates used as platform or walkway floors or as coverings for pits and trenches over which traffic can pass. Usually equipped with irregular (checkered) or abrasive material surface to resist slippage. They are generally removable to permit access to conveying equipment for servicing.

Flop Gate — A hinged or pivoted plate used for selectively directing material handled. Usually used with double or bifurcated chutes.

Fluid Coupling — A device to couple the source of power to a conveyor in which power is transmitted through the medium of the internal resistance of a fluid. The resistance is zero at the moment of starting and builds up to a maximum as the driven machine comes up to speed.

Foot — *See* ' Boot '.

Foot End — *See* ' Tail End '.

Foot Shaft — The terminal shaft in the boot of an elevator or *en masse* conveyor.

Foot Shoes — The formed terminal at foot end of a portable conveyor boom upon which the conveyor rests.

Foundation Bolt — A fastener for connecting a structure or machine to a permanent base. (*See also* ' Anchor Bolts '.)

Foundry Mold Conveyor — *See* ' Mold Conveyor '.

Four-Pulley Belt Tripper — A type of belt tripper designed for reversible belt conveyors which may deliver the material to the tripper from either direction.

Frame — The structure which supports the machinery components of a conveyor.

Friction — A special rubber and or other polymeric compound used to impregnate and bond together the plies of fabric in a belt carcass. The bond strength is expressed in terms of kgf/cm, force necessary to separate the plies of a test piece. (*See also* ' Coefficient of Friction '.)

Friction Clutch — Any clutch in which driving effort is developed by contact between pressure elements through friction alone. General use is for the purpose of engaging or disengaging revolving parts. Also as a safety appliance to permit slip when overload is encountered.

Friction, Surface — *See* ' Antislip Surface '.

Frog — The angular junction section of two or more roller or wheel conveyors (*see* Fig. 34).

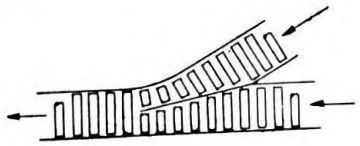


FIG. 34

Furnace Conveyor — The conveyor which moves material through a furnace.

Furnace Run-out Table — *See* ' Run-out Table '.

G

Gallery — A long, narrow, enclosed passageway above the normal grade. Usually paralleling, enclosing and supporting a conveyor and used as a means of access for servicing.

Gate — A device or structure by means of which the flow of material may be stopped or regulated. Synonymous with ' Valve '. (*See also* ' Bin Gate '.)

Gate Plate — The plate used for opening, restricting or closing the passage-way in a Valve or Gate.

Gate Section — *See* ' Hinged Section '.

Gathering Conveyor — *See* ' Underground Mine Conveyors '.

Gauger Table — The combination of a conveyor and any mechanism to stop and gauge the cutting length at a shear in a metal processing line.

Gear Casing — An enclosure around a gear train, generally constructed so as to retain lubricant.

Gear Guard — A covering or barricade for a gear train for safety purposes. May enclose fully or only guard at the points of danger.

Gear Guard Lubricating — *See* ' Gear Casing '.

Gibbed Pillow Block — A split sleeve bearing pillow block in which the plane of split is parallel to the base and whose cap is lipped to fit snugly into the base thereby eliminating side strain on the cap bolts as well as effecting a more nearly perfect alignment of cap to base.

Goose Neck Hook — A 'C' hook for trolley conveyors which provides clearance for drip pan or heat shield protection.

Grade — The rate of incline or decline in terms of degrees from the horizontal, percent of rise to the horizontal distance, or in inches of vertical projection per foot of horizontal projection. Also refers to the grade of cover used in conveyor belt. (*See also* ' Grade Line '.)

Grade Line — The base line from which elevations are measured.

Gradient — *See* ' Grade '.

Grasshopper Conveyor — *See* ' Oscillating Conveyor '.

Grating

a) A coarse screen made of parallel or crossed bars to prevent passing of oversized material.

b) A series of parallel and crossed bars used as platform or walkway floors or as coverings for pits and trenches over which traffic can pass. Generally are removable to permit access to conveying equipment for servicing.

c) A series of parallel and/or crossed bar units fastened to or propelled by the conveying medium, used for carrying large lump-size bulk material or objects. Usually used to permit passage of air for cooling or heat to maintain temperature.

Gravity Chute — *See* ' Spiral Chute '.

Gravity Conveyor — *See* Roller Conveyor; and Wheel Conveyor.

Gravity Discharge Conveyor Elevator—A type of conveyor using gravity discharge buckets attached between two endless chains and which operate in suitable troughs and casings in horizontal, inclined and vertical paths over suitable drive, corner and takeup terminals (*see* Fig. 35).

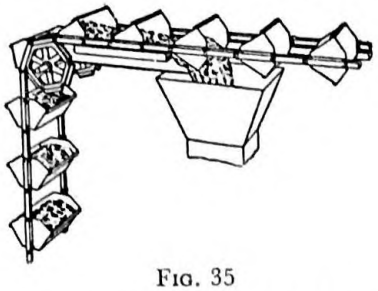


FIG. 35

Gravity Discharge Conveyor Elevator Bucket — An elevator bucket designed to contain material on vertical lifts and scrap material along a trough on horizontal runs. Discharge is effected by gravity.

Gravity Roller Conveyor — *See* ' Roller Conveyor '.

Gravity Takeup — A takeup mechanism where adjustment is performed automatically by the potential energy of the weight of the takeup mechanism and/or auxiliary weights.

Gravity Wheel Conveyor — *See* ' Wheel Conveyor '.

Grit Collector — An adaptation of any of several types of conveyors used for removing heavy solids from settling tanks or basins (*see* Fig. 36). (*See*

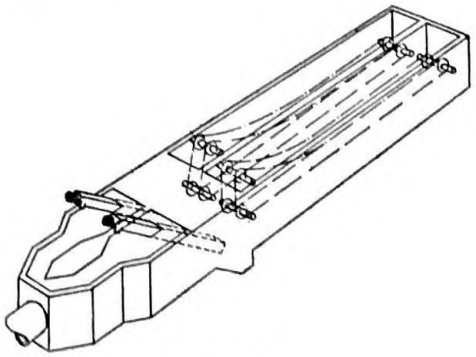


FIG. 36

also Bucket Elevator; Flight Conveyor; Reciprocating Flight Conveyor; Screw Conveyor; and V-Bucket Conveyor Elevator.)

Grizzly — A device for the coarse screening or scalping of bulk materials. (*See* Bar Grizzly; Grizzly Chute; Live Roll Grizzly.)

Grizzly Chute — A chute with a bar grizzly which separates the fine from the coarse material as it passes through the chute.

Grout — A mixture of mortar consisting of water, sand and cement sufficiently thin to flow through a restricted opening.

Guard

a) A covering or barricade for safety purposes such as gear guard, and chain guard.

b) *In connection with a trolley conveyor*, a structure usually of steel mesh, mounted below the conveyor path on high conveyors to protect personnel below.

c) Frame member of any conveyor which confines or guides the load being conveyed.

d) *See* ' Guide '.

Guide

a) The tracks that support and determine the path of a skip bucket and skip bucket bail.

b) The tracks that guide the chain or buckets of a bucket elevator.

c) The runway or members paralleling the path of the conveyor which limits the conveyor or parts of a conveyor to movement in a defined path.

Guide Angle — Guides made of angle iron.

Guide Idler — A pulley, roll or wheel free to rotate and used to limit, guide, direct or confine the conveying or power transmission medium within the limits of a defined path.

Guide Pulley — *See* ' Guide Idler '.

Guide Rails — *See* ' Guide '.

Guided Pallet Conveyor — A pallet conveyor equipped with a guide which engages a wheel, roller or other device mounted on the pallet being conveyed.

Guy — A rope, chain, cable, rod or shape applied as a tension member used for steadying.

H

Hammock Belt Idler — A type of flexible belt-carrying idler with ends supported in pivoted stands. The tube sags under the weight of the load to form a trough.

Hand

(a) The right hand or left hand of a conveyor is determined by facing the direction in which the material is flowing. In the case of a reversible conveyor, the hand is determined when the material is flowing toward the drive end.

(b) In a screw conveyor a right hand screw when rotated clockwise will move material toward the observer; a left hand screw when rotated clockwise will move material away from the observer.

Hand Slide Gate — A slide gate actuated by hand without mechanical advantage.

Hand Wheel — Usually a cast iron wheel having a perimeter cylindrically shaped to permit easy grasp for manual turning. Used on gates, valves, etc.

Hand-Propelled Belt Tripper — A belt tripper which is moved manually from one location to another.

Handrail

(a) As used with moving walks either a stationary rigid handrailing or a moving flexible handrailing travelling at the same speed as passenger conveyor surface, either type being used for passenger hand support.

(b) Any safety railing for the protection of personnel around platforms, pits, stairways, etc.

Hanger — A type of bearing housing or frame which supports the shaft below the point at which the hanger is attached to the conveyor frame, trough, or other structure.

Hanger Steel — Angle iron or rods by which a conveyor is hung from supports above.

Hatch Conveyor — Any of several types of conveyors adapted to loading or unloading bulk materials, packages or objects to or from ships or barges. (*See also* Belt Conveyor; Slat Conveyor; and Portable Conveyor.)

Haulage Conveyor — *See* ' Underground Mine Conveyors '.

Head — *See* ' Head End '.

Head Bucket Elevator — *See* Head End; and Casing Head Section.

Head End — Usually the ultimate delivery end of a conveyor.

Head Frame — The structure that supports the terminal machinery at the head end of a conveyor or elevator. (*See also* ' Frame '.)

Head Pulley — A pulley mounted on the head shaft of a conveyor.

Head Section — The frame or structure at the ultimate delivery end of a conveyor. (*See also* ' Casing Head Section '.)

Head Shaft — The conveyor terminal shaft at the head end of a conveyor. Not always the drive shaft.

Head Sheave

a) A sheave mounted on the head shaft of a conveyor.

b) *In a skip hoist*, the sheave at the discharge end over which the hoisting rope passes.

Head Sprocket Wheel — That sprocket wheel mounted on the head shaft.

Headroom — The vertical distance needed to make possible a workable arrangement of some specified piece of equipment or portion thereof.

Helical Bag Conveyor — *See* ' Double Helical Bag Conveyor '.

Helical Runway — *See* ' Spiral Chute '.

Helicoid Conveyor — *See* ' Screw Conveyor '.

Helicoid Flight — A continuous one-piece conveyor screw flight.

Helicoid Flight Conveyor Screw — A conveyor screw with a helicoid flight.

Herringbone Roller Conveyor — A roller conveyor consisting of two parallel series of rolls having one or both series skewed (*see* Fig. 37). (*See also* ' Roller Conveyor '.)

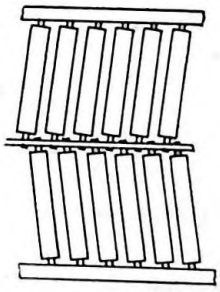


FIG. 37

Herringbone Table — *See* ' Herringbone Roller Conveyor '.

High Front Elevator Bucket — *See* ' Continuous Elevator Bucket '.

Hinge Joint Type Chain — A chain made up of links having a hinge type joint and having a flat top surface in a plane parallel to the plane of the axis of the pins (*see* Fig. 38).

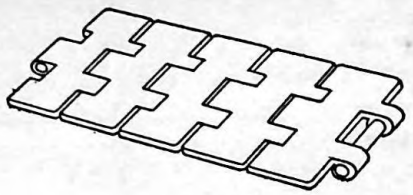


FIG. 38

Hinge Track — A portion of over-and-under conveyor track designed to pivot, allowing truck wheels to pass under or over.

Hinged Apron — *See* ' Apron Conveyor '.

Hinged Apron Pan — An apron pan which is made with a hinge construction along each edge so that it may be joined to companion pans by a hinge pin, or through rod.

Hinged Belt — *See* ' Apron '.

Hinged Boom — A boom or section of a boom hinged at one end.

Hinged Feeder — One which vertically reciprocates one end of an adjoining hinged horizontal conveyor to provide synchronization with the movement of a vertical conveyor during the period required to permit transfer of objects from the vertical to the horizontal conveyor; or from the horizontal to the vertical conveyor. (*See* ' Conveyor Type Feeder '.)

Hinged Section — A section of conveyor equipped with a hinge mechanism for movable service.

Hitch — The attachments on a portable conveyor truck or carriage by which connection is made for towing the conveyor by external motive power.

Hog Scraper Chain — An old term for a type of bar link chain.

Holdback — *See* Backstop; and Retarder.

Holdback Dog — Counterbalanced tilting attachment on chain to prevent object being towed from running away on down grades.

Holddown — Member located above and parallel to runway to prevent conveying medium from picking up off the runway due to tension. Usually located so as to allow normal working clearance for conveying medium.

Hood — *See* ' Casing Hood '.

Hood, Bucket Elevator Casing — *See* ' Casing Hood '.

Hopper — A box having a funnel-shaped bottom, or a bottem, reduced in size, narrowed or necked to receive material and direct it to a conveyor, feeder, or chute.

Hopper Car Unloader — *See* ' Car Unloader '.

Horizontal Closed Circuit Conveyor — A runaround conveyor or conveyors in a horizontal plane.

Horizontal Projection — The apparent area, shape, or line cast on a horizontal plane by a structure or other unit actually supported at an angle to the horizontal.

Horsepower Pull — The effort necessary to maintain the normal operating speed of a conveyor under a rated capacity load. To this should be added the effort of acceleration, drive losses, etc, to arrive at a final driving effort. Horsepower pull may be referred to in terms such as effective tension, chain pull, turning effort, gear tooth pressure, etc. (*See also* ' Effective Belt Tension '.)

Hugger Belt Conveyor — Two belt conveyors whose conveying surfaces combine to convey loads up steep inclines or vertically.

Hugger Drive — A drive employing an auxiliary belt which bears against the surface of the conveying belt as it passes around the drive pulley to increase the pressure between the conveyor belt and the drive pulley.

Humper — *See* ' Booster Conveyor '.

Hydraulic Conveyor — A type of conveyor in which water jets form the conveying medium for bulk materials through pipes or troughs (*see* Fig. 39). This is often a specialized form of conveyor for the handling of ashes.

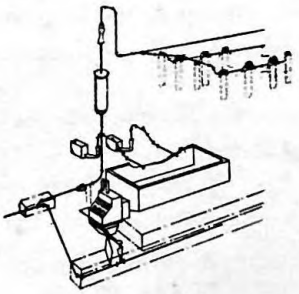


FIG. 39

Hydrostatic Roll — A roll containing liquid. (*See* Hydrostatic roller conveyor.)

Hydrostatic Roller Conveyor — A section of roller conveyor having rolls suitably weighted with liquid to control the velocity of the moving objects. (*See also* ' Roller Conveyor '.)

I

Ice Chain — A type of bar link chain.

Idler

a) Pulley, sheave, sprocket, or wheel around which a belt, cable or chain passes in changing direction of travel. (*See also* ' Snub Pulley '.)

b) A belt supporting roll or rolls.

Idler Attachment — An attachment used to complete assembly of a non-load carrying trolley.

Idler, Catenary — *See* ' Hammock Belt Idler '.

Idler, Cushion — *See* ' Impact Belt Idler '.

Idler Disc — A device used for holding the belt in proper position on certain types of box car loaders. (*See also* ' Box Car Loader '.)

Idler, Flat — *See* ' Flat Belt Idler '.

Idler Frame — *See* Bend Frame; and Stand.

Idler Gear — A gear which transmits power from one gear to another.

Idler, Pulley — *See* Idler; Pulley; and Snub Pulley.

Idler Roll — Any carrying roll of a live roller conveyor not driven. Also the rolls of a belt idler.

Idler, Self-Training — *See* ' Belt Training Idler '.

Idler Shaft — A shaft which supports an idler wheel, pulley, etc.

Idler Sheave — *See* ' Idler '.

Idler, Sprocket — *See* ' Idler '.

Idler, Training — *See* ' Belt Training Idler '.

Idler Wheel — *See* ' Idler '.

Impact Belt Idler — A belt idler having its rolls covered with a resilient material or pneumatic-tired to absorb the shock of loading material onto the conveyor belt to prevent damage to belt and belt idlers.

Indexing—Controlled spacing or feeding. (*See also* ' Escapement Feeder '.)

Indicator — A device to show the position or condition of a remote component or material.

Ingot Casting Conveyor — A type of pan conveyor on which the pans serve as molds for casting ingots or pigs (*See* Fig. 40). (*See also* ' Pan Conveyor '.)

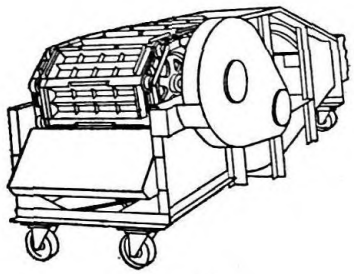


FIG. 40

Inlet — A device to permit insertion of carriers into the system of tubes in a pneumatic conveyor.

Inside Link — *See* ' Centre Link '.

Inside Trough End — A trough end designed for attachment inside a screw conveyor trough.

Interlocking Controls — A system of electrical controls for a system of conveyors which maintains a controlled relationship between the units of the system. Sometimes applied to sequence starting controls.

Intermediate Attachment — *See* ' Chain Attachment '.

Intermediate Carrier — An apron conveyor for transferring sugar cane between grinding rolls. (*See also* ' Apron Conveyor '.)

Intermediate Carrier Chain — A form of pintle chain having cylindrical bosses extending outwardly from the side bars at the open end of the link and encircling the pin to provide driving lugs for double or twin sprocket wheels.

Intermediate Drive — A drive which transmits motion to a conveyor at a point other than the terminals.

Intermediate Sectional Bucket Elevator Casing — *See* ' Casing Intermediate Section '.

Intermediate Stations — The additional receiving or discharge station(s) which are included intermediate between the first receiving position and the discharge end of the conveyor.

Internal Discharge Bucket Elevator — A type of bucket elevator having continuous buckets abutting, hinged or overlapping and designed for loading and discharging, along the inner boundary of the closed path of the buckets (*see* Fig. 41). (*See also* ' Bucket Elevator '.)

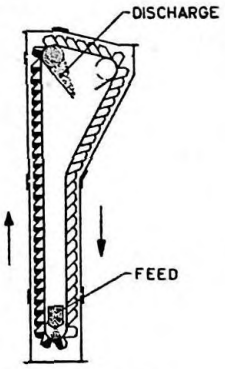


FIG. 41

Internal Elevator — *See* ' Internal Discharge Bucket Elevator '.

Internal Ribbon Conveyor — A trunnion-supported revolving cylinder the inner surface of which is fitted with continuous or interrupted ribbon flighting (*see* Fig. 42).

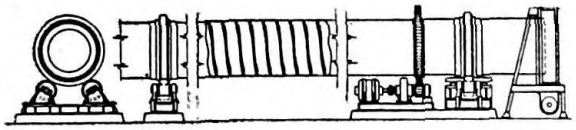


FIG. 42

Interwoven Conveyor Belt — A construction of conveyor belt similar to the solid woven type of belt and having the plies interwoven to the extent that it is impossible to separate the plies.

Inventory Conveyor — *See* ' Accumulator Conveyor '.

Inverted Tooth Chain — A drive chain having series of toothed links alternately assembled either with pins and/or other joint components to

provide a pivot between adjoining pitches (*see* Fig. 43). (*Known also* as ' Silent Chain '.)

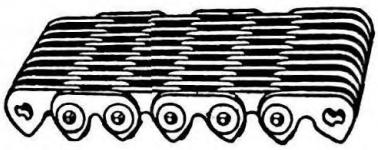


FIG. 43

J

Jack — An adjustable support with levelling features.

Jacketed Conveyor Trough — A conveyor trough fitted with an additional casing to form a hollow wall.

Jackscrew — A horizontally or vertically-mounted screw used for the purpose of adjusting and maintaining adjustments for alignment of a machine part. Also used in place of a takeup screw.

Jackshaft — *See* ' Countershaft '.

Jaw Clutch — A clutch in which driving effort is transmitted through jaws or teeth which may be square or spiral in form.

Jaw Feeder — One which separates and delivers round objects utilizing holding and releasing arms to engage the periphery of such objects.

Journal — That portion of rotating shaft or axle which turns within a bearing and which supports the load imposed by weight, chain or belt pulls, gear tooth pressure, etc.

Journal Bearing — *See* ' Bearing '.

Journal Box — *See* ' Bearing Block '.

K

Kicker — A unit that automatically dislodges or re-removes a package or object from the conveyor. The packages may be dislodged selectively or continuously.

Kick-off Feeder — One which separates and delivers objects by use of a kick-off mechanism.

Knee Brace — A structural brace to prevent lateral or vertical deflection in a stringer, chord member or other structural component or part of a cantilevered or spanning frame member, terminal shaft or other assembly. Generally used to transfer stress encountered into a nearby bent or support member.

Knockover Dog — *See* ' Tilting Dog '.

Knuckle Joint — *See* ' Swivel Link '.

Knuckle Shaft — A bend shaft usually equipped with an idler wheel of a type related to the conveying medium for abruptly changing the normal path of the conveying medium to effect a more complete inversion for discharge or to accomplish a clearance.

L

Labyrinth Seal — A combination of metal discs and cups designed to provide an intricate passage to prevent foreign matter from entering ball or roller bearings and to retain lubricant.

Lagged Pulley — A pulley having the surface of its face covered with a material to provide for greater friction with the belt or to provide a resilient surface for cleaning purposes.

Landing — The stationary platform at each entrance or exit point of a moving walk or stairway, consisting of a take-off lip and a threshold plate.

Lane — The width of a passenger conveyor, or its stationary approaches, needed for a line of passengers in single file.

Lap Changer — A device for reversing the lap on pivoted buckets.

Larry — *See* ' Weigh Larry '.

Lazy Tong Conveyor — *See* ' Accordion Roller Conveyor '.

Leaf Chain — *See* ' Bar Link Chain '.

Left Hand — *See* ' Hand '.

Leg — A term sometimes applied to a centrifugal discharge bucket elevator. Usually a double leg bucket elevator.

Legging — The casing between the head end and boot of a bucket elevator enclosing the carrying or return runs or both.

Leveler — *See* ' Bucket Trimmer '.

Lift — The net vertical distance through which material is moved against gravity by a conveyor or bucket elevator.

Lift-and-Turn Unit — A type of transfer device for metal coils which lifts, turns and lowers.

Lifting Blade — *See* ' Cleat '.

Lifting Feeder — One of several types which employ a lifting device to separate and deliver objects.

Limit Device — A device so constructed and located when applied as to effect control for limit of travel, degree or to cause actuation, reversal, or stop of equipment in operation, or to be operated.

Limit Switch — An electrical device by which the movement of a conveyor and allied equipment may be controlled within predetermined limits. (*See also* ' Limit Device '.)

Liner — A replaceable member used for purpose of absorbing wear.

Liner Plates — *See* ' Wearing Plate '.

Lining — *See* ' Screw Conveyor Trough Lining '; and ' Trough Lining '.

Link — A chain unit of one pitch length.

Link-Plate Belt — A grizzly type of belt consisting of two strands of endless chain connected by through rods at each articulation on which are carried a series of plates or bars mounted in a vertical plane for the purpose of rough screening while conveying.

Live Bearing Area — The projected surface of contact between two members in motion relative to each other.

Live Bearing Pressure — The load divided by the live bearing area.

Live Roll Grizzly — A device for screening and scalping which consists of a series of spaced rotating, parallel rolls so constructed as to provide openings of a fixed size (*see* Fig. 44).

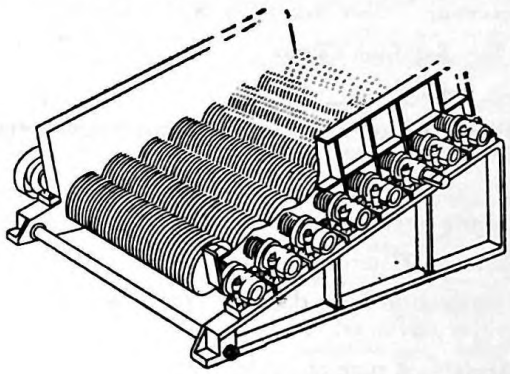


FIG. 44

Live Roller Conveyor — A series of rolls over which objects are moved by the application of power to all or some of the rolls. The power transmitting medium usually is belting or chain (*see* Fig. 45).

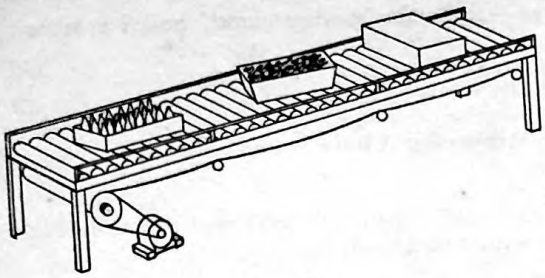


FIG. 45

Live Storage

a) Storage on a suitably designed power-operated conveyor, power-and-free conveyor, roller conveyor or other combinations upon which accumulated packages or objects can advance as other loads are removed from the discharge end.

b) That storage of bulk material in the upper portion of a silo, bunker, or bin which is available for immediate current use.

Load Bar — A device to distribute a load over two or more trolleys.

Load Indicator — A device mounted on a floating drive to indicate amount of load drive is pulling.

Loading Chute — Used to direct material to a conveyor.

Loading Conveyor — Any of several types of conveyors adapted for loading bulk materials, packages, or objects into cars, trucks, or other conveyors.

Loading Cycle — The number of times per given unit of time that a given point on the conveying medium passes the loading station. It is usually expressed in terms of minutes required by a given point to make a complete circuit of the conveyor.

Loading Gate — A gate or measuring chute for loading a skip bucket that is controlled by the weight or movement of the skip bucket.

Loading Hopper — A hopper used to receive and direct material to a conveyor.

Loading Leg — A chute enclosing the front and/or sides of an elevator bucket line and used to guide material into continuous elevator buckets.

Loading Plate — *In vertical conveyors of the opposed shelf type*, a plate on which the load is deposited and from which it is removed by a pair of shelves. (*See* ' Discharge Plate '.)

Loading Skirt — *See* ' Skirt Plate '.

Log Washer — *See* ' Paddle Washer '; and ' Screw Washer '.

Long Pitch Conveyor Screw — A conveyor screw in which the pitch of the conveyor screw flight is more than normal. (*See also* ' Pitch '.)

Long Pitch Engineering Chain — *See* ' Steel Side Bar Bushed Roller Chain '.

Loop Boot — The lower portion of a loop-boot *en masse* elevator comprising a loop of casing with a feed inlet.

Loop Boot Elevator — An *en masse* elevator in which the lower end of the casing is in the form of loop. (*See also* Loop Boot; and *En Masse* Conveyor.)

Looping Table — A roller, wheel or other suitable type of conveyor located between two metal strip processing units over which the strip can loop when the forward machine slows down.

Low Front Elevator Bucket — *See* ' Continuous Elevator Bucket '.

Lowering Conveyor — Any type of vertical conveyor for lowering of objects at a controlled speed. (*See* Arm Conveyor; Suspended Tray Conveyor; and Vertical Reciprocating Conveyor.)

Lubricating Chain Guard — *See* ' Chain Casing '.

Lubricating Gear Guard — *See* ' Gear Casing '.

Lug — *See* ' Conveyor Screw Lug '.

M

Magnetic Brake — A brake usually mounted on a motor shaft with means to engage automatically when the electric current is cut off or fails.

Magnetic Detector — An electrical device for indicating the entry of magnetic material into a definite area.

Magnetic Elevator/Conveyor — An elevator/conveyor having a flexible rubber or canvas belt moving adjacent to a static magnetic field which imparts a retaining influence or pull to any magnetisable article and so allows the belt to move the article through vertical or horizontal planes.

Magnetic Feeder — Any feeder which uses magnetism to pick up, hold, separate and deliver objects.

Magnetic Pulley — A pulley equipped with a permanent or electromagnet used to remove tramp iron from the bed of material as it is discharged from the conveyor.

Magnetic Roll Feeder — One which utilizes magnetized, power-operated rolls for separating and delivering objects.

Main Conveyor — *See* ' Underground mine conveyor '.

Manganese Feeder — A type of apron or pan feeder in which the plates or pans are of manganese steel and often cast integral with chain linkage. (*See* Apron Conveyor; Fedder; and Pan Conveyor.)

Manlift — A type of passenger conveyor consisting of a vertical endless belt with projecting steps and handles on its outer surface for transporting passengers between different elevations.

Manually-Controlled Belt Tripper — A self-propelled belt tripper the movement of which is controlled by hand.

Marine Leg — A self-feeding bucket elevator with means for lowering it into the hold of a vessel (*see* Fig. 46). (*See also* ' Bucket Elevator '.)

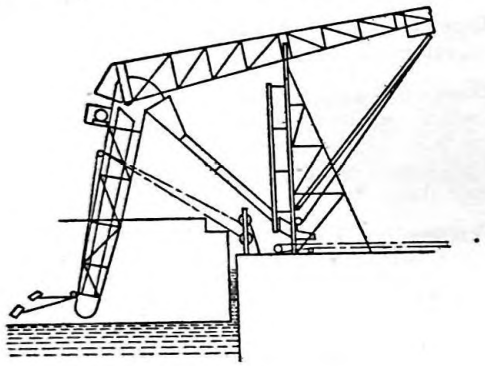


FIG. 46

Master Pin — A type of coupler pin used for joining rivetless chain where sufficiently slack cannot be obtained to permit connection in the usual manner.

Matched Chains — Two or more strands of the same chain of practically the same length and attachment spacing.

Materials Handling

a) The art and science involving movement, packaging, and storage of substances in any form. (American Material Handling Society, Inc.)

b) The movement of everything within an establishment; the handling of raw materials and tools; the movement of components between operations and in stores, of finished products and of the scrap, cutting oils and process machinery, the movements of work people in relation to the handling of material. (British Electrical Development Association).

Maximum Angle of Inclination — The maximum angle at which a conveyor may be inclined and still deliver a predetermined quantity of bulk material within a given time. As the maximum angle is approached the rate of handling of bulk material is usually decreased. For package conveyors the maximum angle of inclination is that at which packages or objects may be conveyed without slippage. (*See also* ' Coefficient of Friction '.)

Maximum Belt Tension — The total of the starting and operating tensions. In the average conveyor this is considered to be the same as the tight side tension.

Maximum Breaking Strength — *See* ' Ultimate Strength '.

Maximum Operating Belt Tension — The tension in the carrying run necessary to maintain the normal operating speed of a loaded belt.

Maximum Plies — The greatest number of plies in the carcass of a rubber conveyor belt which can be used without seriously reducing the transverse flexibility of the belt, thereby limiting its ability to conform to the troughed contour of the idler, and resulting contact against all of the supporting rolls. (*See also* ' Troughability '.)

Maximum Tension — The total of the starting and operating tensions set up in the load carrying or power transmitting medium. (*See also* ' Maximum Belt Tension '.)

Medium Front Elevator Bucket — *See* ' Continuous Elevator Bucket '.

Merging Feeder — One which consolidates the movement of objects from two or more lanes into a single lane.

Merry-Go-Round Conveyor — *See* ' Carrousel Conveyor '.

Mildew Resistance — The ability of a conveyor belt carcass to withstand mildew deterioration. This is accomplished by application of a chemical treatment to the fabric or cords, which inhibits the mildew growth.

Milking Conveyor — One used for the movement of cows through the milking operations. (*See also* Apron Conveyor; Carrousel Conveyor; and Slat Conveyor.)

Mill Table — Any type of conveyor used to connect two machines in a metal rolling mill.

Mine Conveyor — *See* ' Underground Mine Conveyors '.

Mingler — *See* Paddle Type Mixing Conveyer; and Screw Type Mixing Conveyor.

Minimum Plies — The least number of plies in a carcass of a rubber conveyor belt for a given width and weight of duck to provide sufficient support strength in the belt, both laterally and longitudinally to limit excessive sag between idlers and to resist impact splitting.

Mixer, Screw — *See* ' Screw Type Mixing Conveyor '.

Mixing Conveyor — *See* Paddle Type Mixing Conveyor; and Screw Type Mixing Conveyor.

Mixing Paddle — *See* ' Paddle '.

Mold Conveyor — A conveyor used for handling molds from molding stations, through pouring and cooling operations and delivering molds to shakeout. (*See also* Car Type Conveyor; Carrousel Conveyor; Live Roller Conveyor; Pallet Type Conveyor; and Roller Conveyor.)

Monitor — The main group of terminals where carriers are automatically relayed from one line to another in a pneumatic conveyor system.

Monorail Conveyor — *See* ' Trolley Conveyor '.

Mother Conveyor — *See* ' Underground Mine Conveyors '.

Motor-Propelled Belt Tripper — A belt tripper which receives power to traverse from place to place by means of its own motor.

Movable Conveyor — Any of several types of conveyors designed to be moved in a defined path. (*See also* Portable Conveyor; and Shuttle Conveyor.)

Moving Pan Inspection Table — A packing house term for a pan conveyor.

Moving Ramp — A moving walk set on a substantial slope for transporting passengers between different elevations.

Moving Sidewalk — *See* ' Moving Walk '.

Moving Stairway — A type of passenger conveyor in which the passenger carrying surfaces form stairs where the travel is on a slope.

Moving Top Table — A packing house term applied to pan, slat, apron and belt conveyors.

Moving Walk — A type of passenger conveyor on which passengers stand or walk and in which the passenger-carrying surface remains parallel to its direction of motion (*see* Fig. 47).

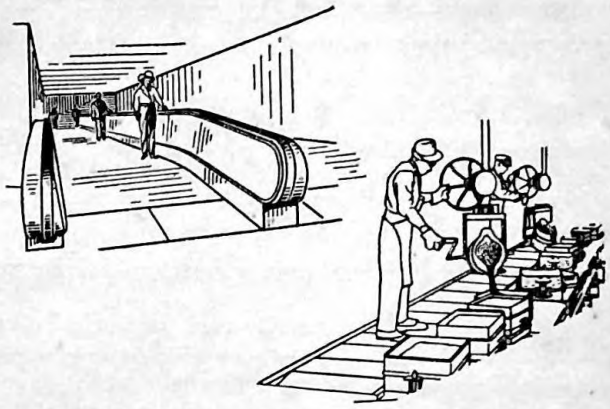


FIG. 47

Muller — *See* ' Paddle Type Mixing Conveyor '.

Multideck Spiral Chute — Any spiral chute having two or more superimposed troughs or beds fabricated into one assembly.

Multiple Bin Gate — A series of bin gates connected to a single operating device so that all may be opened and closed simultaneously.

Multiple Cord Belt Conveyor — A belt conveyor composed of two or more spaced strands of Vee, double Vee or round belts.

Multiple Flight Conveyor Screw — A conveyor screw having two or more conveyor screw flights mounted at equal intervals around the pipe or shaft. The axial distance between adjacent flights is equal to the pitch of the conveyor screw flight divided by the number of flights.

Multiple Ribbon Belt Conveyor — A belt conveyor having a conveying surface of two or more spaced strands of narrow flat belts.

Multiple Screw Feeder — A series of conveyor screws installed side by side, usually in a flat bottom bin. (*See also* ' Screw Conveyor '.)

Multiple Strand Conveyor

a) Any conveyor which employs two or more spaced strands of chain, belts, or cords as the load-supporting medium.

b) Any conveyor in which two or more strands are used as the propelling medium connecting pans, pallets, etc.

Multiple Width Chain — A chain having more than one row of links laterally connected by a common pin.

N

Natural Frequency Vibrating Conveyor — A vibrating conveyor in which the rate of free vibration of the trough on its resilient supports is approximately the same as the rate of vibration induced by the driving mechanism.

Newel — That portion of the balustrade of a moving walk which extends beyond the moving belt surface.

Nonsegrating Chute — A chute, usually used to charge stoker hoppers, so designed as to deliver the coal in a mixed state rather than having the large lumps tend to be deposited separate from the fine.

Normalizing Conveyor — A conveyor which moves material through a normalizing furnace under heat.

Nozzle — A fitting applied to the intake end of a pneumatic conveyor tube to permit suction of material into the air stream.

O

Offset Coupler Link — A coupler link made in the form of an offset link.

Offset Link — A link, the side bars of which are offset to provide a centre link construction at one end and outside link construction at the other.

Offset Side Bar — A side bar of an offset link.

Offset Side Bar Chain — A chain made up of consecutive offset links.

Oiler — A device supplying controlled lubrication.

One-Way Chute — A chute causing one fixed direction of discharge or trajectory of material.

Open Centre Core Spiral Chute — A spiral chute without a centre core or column. Side guards are used on both sides of the trough or bed.

Open Spiral Chute — A spiral chute which is not fabricated with an outer enclosure.

Operating Belt Tension — *See* 'Maximum Operating Belt Tension'.

Oscillating Conveyor — A type of vibrating conveyor having a relatively low frequency and large amplitude of motion. (*See also* 'Vibrating Conveyor'.)

Oscillating Feeder — *See* ' Conveyor Type Feeder '.

Outboard Roller — A roller cantilever supported.

Outside Link — A link consisting of two straight side bars and two pins, the side bars of which are the outermost side bar when assembled into the chain.

Outside Trough End — A trough end designed for attachment to a screw conveyor trough flange.

Over-and-Under Conveyor — Two endless chains or other linkage between which carriers are mounted and controlled so that the carriers remain in an upright and horizontal position throughout the complete cycle of the conveyor (*see* Fig. 48).

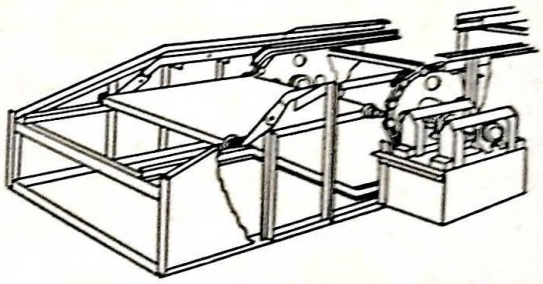


FIG. 48

Overcut Gate — A type of gate in which a straight slide or segment cuts through the stream of material from the top when closing.

Overhead Conveyor — *See* ' Trolley Conveyor '.

Overhead Trolley Conveyor — *See* ' Trolley Conveyor '.

Overload Release — A mechanism or electrical equipment designed to disconnect the driven equipment from the motive power in event of overload on conveyor.

Over-the-Track Car Unloader — *See* ' Car Unloader '.

P

Pack Tilter — The mechanism on a conveyor for inclining a pack of sheets for manual or mechanical removal of the pack or individual sheets.

Packing Scale — A scale which automatically cuts off the feed after a definite amount of material has been weighed.

Paddle — A flat, contoured or shaped blade having suitable means for mounting on or attachment to a pipe or shaft in a fixed or adjustable position with respect to the shaft axis.

Paddle Conveyor — *See* ' Paddle Type Mixing Conveyor '.

Paddle Conveyor Screw — A conveyor screw in which paddles are pitched and positioned to form the material propelling means.

Paddle Mixer — *See* ' Paddle Type Mixing Conveyor '.

Paddle Type Mixing Conveyor — A type of conveyor consisting of one or more parallel paddle conveyor screws. (*See also* ' Screw Conveyor '.)

Paddle Washer Conveyor — A type of conveyor consisting of one or two inclined parallel paddle conveyor screws in a conveyor trough having a receiving tank and an overflow weir at the lower end and a discharge opening at the upper end (*see* Fig. 49).

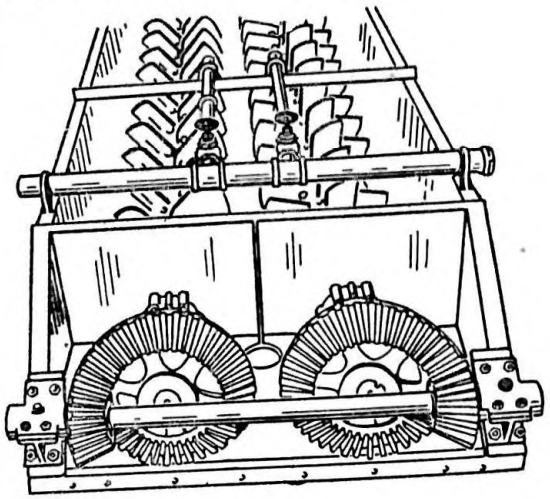


FIG. 49

Paddle Wheel Feeder — A right angle delivery feeder utilizing a paddle wheel device to separate and deliver objects.

Pallet — A flat or shaped wheelless load carrier of a pallet conveyor.

Pallet Loader — An automatic or semiautomatic machine, consisting of synchronized conveyors and mechanisms to receive objects from conveyor(s) and place them onto pallets according to a prearranged pattern (*see* Fig. 50).

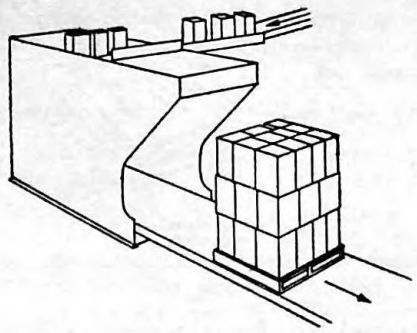


FIG. 50

Pallet Type Conveyor — A series of flat or shaped wheelless carriers propelled by and attached to one or more endless chains or other linkage (*see* Fig. 51).

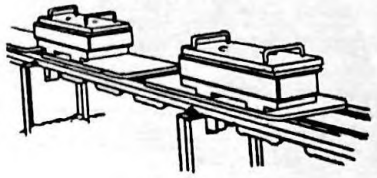


FIG. 51

Pallet Unloader — An automatic machine, consisting of synchronized conveyors and mechanisms to disassemble a pallet load, and discharge the objects singly.

Palletizer — *See* ' Pallet Loader '.

Palletless Loader — An automatic machine, consisting of synchronized conveyors and mechanisms to receive objects and arrange them automatically into a unit load in accordance with a predetermined pattern.

Pan — *See* ' Apron Pan '.

Pan Conveyor — A conveyor comprising one or more endless chains or other linkage to which usually over-lapping or interlocking pans are attached to form a series of shallow, open-topped containers. Some pan conveyors have been known also as apron conveyors (*see* Fig. 52).

Pan Feeder — *See* ' Conveyor Type Feeder '.

Pan Side — *See* ' Apron Pan End '.

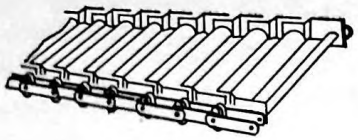


FIG. 52

Partition Plate — The common wall between the carrying and return portions of a combined run of an *en masse* conveyor.

Passenger Conveyor — A conveyor for transporting people who enter and leave the conveyor by walking or stepping and who either stand, sit, or walk on the conveyor while being transported.

Peak Load Capacity — The per-minute capacity as compared with the average per-hour capacity.

Peel-Off Feeder — One used to feed one object at a time from an accumulation by taking the top or the bottom object from a vertical pile, or the front object for a horizontal stack.

Pendant Attachment — A single bar trolley attachment projecting down through the chain (as opposed to the double or clevis type) having a single hole for supporting various objects.

Perfect Discharge Elevator — *See* ' Positive Discharge Bucket Elevator '.

Permanent Magnet — A material having lasting magnetic properties.

Permanent Magnet Pulley — *See* ' Magnetic Pulley '.

Permanent Stretch — *See* ' Stretch '.

Piano-Hinged Conveyor — *See* Apron; Apron Conveyor; and Hinged Apron Pan.

Picking Conveyor — A belt or apron conveyor used to carry a relatively thin bed of material past pickers who hand sort, or pick the material being conveyed.

Picking Conveyor Idler — A troughed belt idler with short concentrator rolls and a long centre roll; used to spread and expose material for picking.

Picking Table — *See* ' Picking Conveyor '.

Pier — *In a foundation for a conveyor structure*, that part raised above the surrounding surface level in which anchor bolts may be imbedded.

Pig Conveyor — *See* ' Ingot Casting Conveyor '.

Pig Mold Conveyor — *See* ' Ingot Casting Conveyor '.

Piler — *See* ' Stacker '.

Piler Table — A conveyor for stacking sheets in a rolling mill.

Pillow Block — A bearing block or housing having a flat mounting surface offset from but parallel to the shaft. (*See also* Angle Pillow Block; Anti-friction Pillow Block; Babbitted Pillow Block; Ball Bearing Pillow Block; Bronze Bearing Pillow Block; Gibbed Pillow Block; Plain Bearing Pillow Block; and Roller Bearing Pillow Block.)

Pin — *See* ' Chain Pin '.

Pin Type Slat Conveyor — Two or more endless chains to which cross bars are attached at spaced intervals, each having affixed to it a series of pointed rods extending in a vertical plane on which work is carried. Used principally in spraying or washing operations where the least amount of area of the product is contacted.

Pinch Roll Drive — A double roll drive which transmits motion to an endless conveyor belt by means of pressure exerted on the belt as it passes between the two rolls.

Pink Link — An outside link.

Pintle Chain — A type of offset chain in which the barrel is cast integral at one end between a pair of offset side bars (*see* Fig. 53).

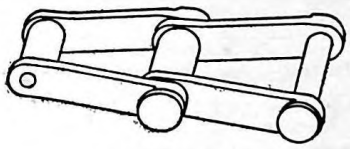


FIG. 53

Pit — A hole, recess, or well below the normal grade or base floor.

Pitch

a) The amount of vertical drop in one turn (360°) of a spiral. Also the amount of vertical drop in a given unit of length of roller or wheel conveyor.

b) *In chain*, the distance between the centres of two successive chain pins.

c) *In a conveyor screw flight*, the distance between identical points on adjacent flight surfaces measured axially. Normally this pitch is approximately equal to the outside diameter of the flight.

d) The conveyor belt pitch line is a horizontal plane located centrally in the carcass, at which, for computation purposes all belt tension is theoretically carried.

e) In sprockets and gears it is the distance measured on the pitch circle between the centres of adjacent teeth.

Pivoted Bucket — A conveyor bucket carried on, and free to pivot about trunnious or crossrods carried by chains.

Pivoted Bucket Conveyor — A type of conveyor using pivoted buckets attached between two endless chains which operate in suitable guides or casing in horizontal, vertical, inclined or a combination of these paths over drive, corner and takeup terminals (*see* Fig. 54). The buckets remain in the carrying position until they are tipped or inverted to discharge.

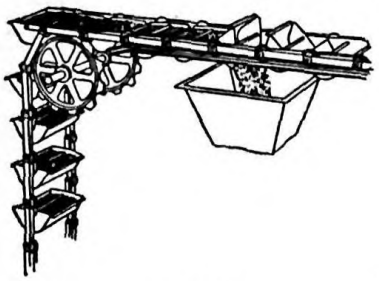


FIG. 54

Pivoted Bucket Conveyor Bucket Dumper, Tripper — *See* ' Bucket Tripper '.

Pivoted Bucket Conveyor Bucket Righter — *See* ' Bucket Righter '.

Pivoted Bucket Conveyor Bucket Trimmer, Leveler — *See* ' Bucket Trimmer '.

Pivoted Bucket Conveyor Lap Changer — *See* ' Lap Changer '.

Pivoted Bucket Conveyor Tripping Cam — *See* ' Tripping Cam '.

Plain Bearing Pillow Block — A one piece pillow block in which a bored hole forms the bearing.

Plain Chain Conveyor — *See* ' Sliding Chain Conveyor '.

Planar Action Roll — A double tapered roll which acts to centre automatically any load when used as a component of live-roll conveyor.

Plate Feeder — *See* Reciprocating Feeder; and Rotary Table Feeder.

Plate Hub Box — *See* ' Flanged Bearing Block '.

Platform Conveyor — *See* ' Moving Walk; and Slat Conveyor '.

Plough — A blade, either fixed or mounted on a movable carriage placed obliquely across the run of the loaded belt to discharge the material by deflecting it from the belt at points other than the head of the conveyor.

Plow — *See* ' Deflector '.

Ply — A layer of duck or cords used in constructing the carcass of a conveyor belt.

Ply Adhesion — The characteristics of bonded plies in a carcass of conveyor belt. It is expressed in terms of the mean force required to strip one ply from the next in kgf/cm of plywidth. (*See also* Friction; and Skim Coat.)

Ply Arrangement — The construction of the laminated pattern of the plies in the carcass of a conveyor belt. Usual arrangements are folded edge construction, straight edge and step ply.

Ply Rating — The maximum recommended working tension for various types of fabrics expressed in force per unit width kgf/mm/ply.

Ply Tensile — Measurement of the ultimate breaking strength of a ply used in the carcass of a conveyor belt expressed in kgf/cm width of ply. Permissible working tension in the ply of a specific belt is determined taking into account factors of safety and service conditions, such as, type of takeup, joints and starting loads.

Pneumatic Chute or Spout — A chute or spout in which air is introduced through the bottom to facilitate movement of bulk material down a slight decline.

Pneumatic Conveyor — An arrangement of tubes or ducts through which bulk material or objects are conveyed in a pressure and/or vacuum system.

Pneumatic Conveyor Air Lock — *See* ' Air Lock '.

Pneumatic Conveyor Blast Gate — *See* ' Blast Gate '.

Pneumatic Conveyor Carrier — *See* ' Carrier '.

Pneumatic Conveyor Central Desk — *See* ' Central Desk '.

Pneumatic Conveyor Discharge Valve — *See* ' Discharge Valve '.

Pneumatic Conveyor Inlet — *See* ' Inlet '.

Pneumatic Conveyor Monitor — *See* ' Monitor '.

Pneumatic Conveyor Nozzle — *See* ' Nozzle '.

Pneumatic Conveyor Power Plant — *See* ' Power Plant '.

Pneumatic Conveyor Rotary Discharge — *See* ' Rotary Discharge '.

Pneumatic Conveyor Rotary Gate — *See* ' Rotary Discharge '.

Pneumatic Conveyor Rotary Valve — *See* ' Rotary Discharge '.

Pneumatic Conveyor Screen Box — *See* ' Screen Box '.

Pneumatic Conveyor Sending Box — *See* ' Terminal '.

Pneumatic Conveyor Separator — *See* ' Separator '.

Pneumatic Conveyor Terminal — *See* ' Terminal '.

Pneumatic Conveyor Tube — *See* ' Tube '.

Pneumatic Conveyor Windgate — *See* ' Blast Gate '.

Pocket Belt Conveyor — *See* ' Pocket Conveyor '.

Pocket Chain — *See* ' Coil Chain '.

Pocket Conveyor — A continuous series of pockets formed of a flexible material festooned between cross-rods carried by two endless chains or other linkage which operate in horizontal, vertical and inclined paths (*see* Fig. 55).

FIG. 55

Pocket Wheel — A wheel whose circumference is contoured to mate with the shapes of the chain links so that chain pull is transmitted positively to the wheel shaft.

Pony Support — A single, quickly adjusted support.

Portable Belt Conveyor — A portable conveyor upon which a belt is used as the conveying medium. (*See also* ' Belt Conveyor '.)

Portable Conveyor — Any type of transportable conveyor, usually having supports which provide mobility (*see* Fig. 56). (*See also* Box Car Loader; Bucket Loader; Car Unloader; Loading Conveyor; Portable Belt Conveyor; Portable Drag Conveyor; Roller Conveyor; Trimmer Conveyor; Unloading Conveyor; and Wheel Conveyor.)

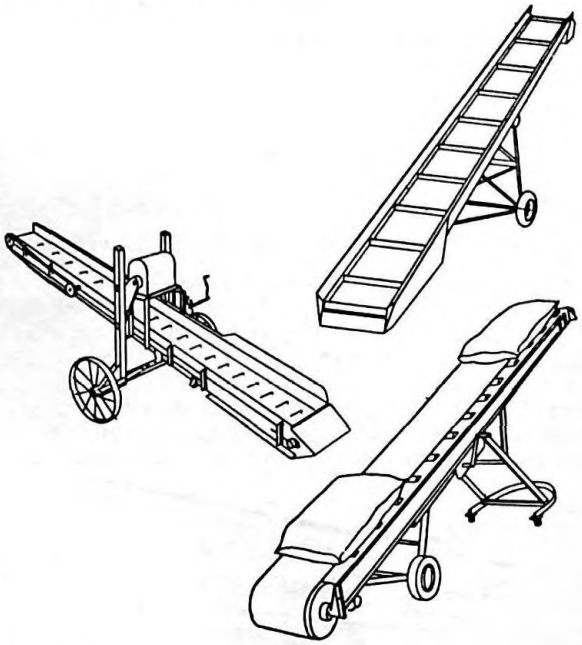


FIG. 56

Portable Drag Conveyor — A portable conveyor upon which endless drag chains are used as the conveying medium. Also a term sometimes applied to a portable flight conveyor. (*See also* ' Drag Chain Conveyor '.)

Positive Clutch — *See* ' Jaw Clutch '.

Positive Discharge Bucket Elevator — A spaced bucket type elevator in which the buckets are maintained over the discharge chute for a sufficient time to permit free gravity discharge of bulk materials (*see* Fig. 57). (*See also* ' Bucket Elevator '.)

Pouring Escalator — *See* Moving Walk; and Slat Conveyor.

Pouring Walk — *See* Moving Walk; and Slat Conveyor.

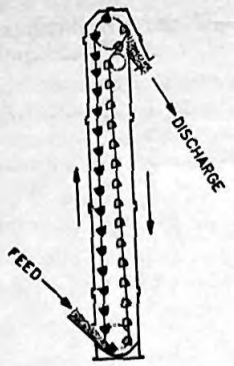


FIG. 57

Power Driven Roller Conveyor — *See* 'Live Roller Conveyor'.

Power Plant — A blower, exhauster, pump or compressor which supplies air at above or below atmospheric pressure to a pneumatic conveyor.

Power-and-Free Conveyor — A conveying system wherein the load is carried on individual trolleys which are conveyor-propelled through part of the system and are gravity or manually-propelled through the free line (*see* Fig. 58). The purpose of this arrangement is to provide a means of switching the free trolleys into and out of other adjacent lines.

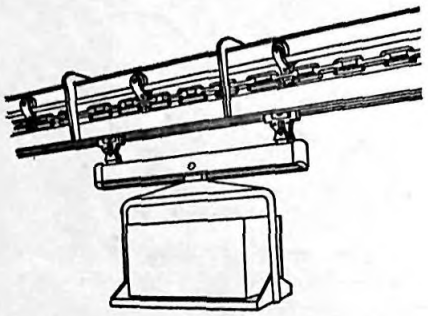


FIG. 58

Power-Propelled Tripper — *See* 'Self-Propelled Belt Tripper'.

Power-Propelled Truck Conveyor — A portable conveyor mounting equipped with wheels or crawler mounted power driven truck providing self-mobility.

Precision Roller Chain — *See* 'Transmission Roller Chain'.

Pressure Pulley — A pulley with a resilient or pneumatic face used at the drive pulley of a belt conveyor to increase the traction between the drive pulley and the belt.

Proportioning Feeder — A feeder in which bulk materials are received from multiple inlets at set rates, nor necessarily the same for each inlet, and/or discharge at multiple outlets at set rates, not necessarily the same for each outlet.

Pug Mill — *See* ' Paddle Type Mixing Conveyor '.

Pulley — A wheel usually cylindrical but sometimes polygonal in cross section and having its centre bored for mounting on a shaft.

Pulley Face — *See* ' Face '.

Pulley, Guide — *See* ' Guide Idler '.

Pulley Scraper — A flat blade, the edge of which bears against the face of the pulley, used to scrape off any foreign material which may cling to the pulley face.

Pull-Through Conveyor — A packing house term applied to a type of tow conveyor for pulling hogs through a scalding tank.

Punch Table — Any conveyor which supports and controls movement of metal plates or shapes at a punching machine. The table or conveyor usually takes the form of a carrousel or disc.

Pusher Bar Conveyor — Two endless chains cross-connected at intervals by bars or rotatable pushers which propel the object along the bed or trough of the conveyor (*see* Fig. 59).

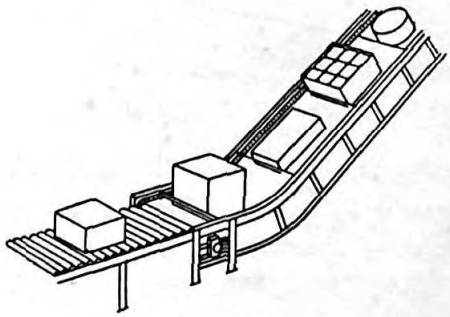


FIG. 59

Pusher Chain Conveyor — One or more endless chains with attachments which move or retard the movement of packages, objects, trucks, dollies, or cars along stationary wood, metal or roller beds, troughs, rails or tracks.

Pusher Dog — A projecting lug type of chain attachment which contacts the object being towed or pushed.

Push-Out Plate — *Of an en masse conveyor*, a stationary sloping plate opposite the discharge outlet to push the conveyed material out so as to obtain a more positive discharge.

Q

Quadrant Gate — A type of gate in which a cylindrical segment operating through the arc of a circle forms the mechanism by which the flow of material may be controlled or shut off completely.

Quench Tank Conveyor — *See* Cooling Conveyor; and Dipping Conveyor.

R

Rack and Pinion Curved Slide Gate — A rack and pinion gate having a curved gate plate.

Rack and Pinion Flat Slide Gate — A rack and pinion gate having a flat gate plate.

Rack and Pinion Gate — A gate in which the gate plate is operated by means of a rack and pinion gear set (*see* Fig. 60).

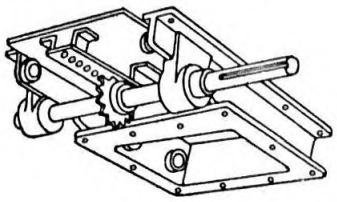


FIG. 60

Rack and Pinion Valve — *See* ' Rack and Pinion Gate '.

Rack Bar Conveyor — *See* ' Reciprocating Beam Conveyor '.

Radial Wheel Truck — A portable conveyor truck on which wheels are so mounted as to permit radial movement about a fixed point.

Rail

a) One of the longitudinal members in a conveyor frame.

b) The supporting surface under the wheels or rollers of a chain conveyor.

c) The supporting track for a belt tripper.

Rail Chair — A pedestal used to support the track rails of a conveyor or tripper.

Rail Clamp — An attachment or device for clamping a movable conveyor or belt conveyor tripper to the rail to hold it in a fixed location.

Rail Stop — A stop mounted at the ends of tripper or shuttle conveyor rails to limit the travel.

Ramp Conveyor — *See* Moving Ramp; Pusher Chain Conveyor; and Slat Conveyor.

Rapping Device — A pendant operating in the path of the conveying medium such as buckets or pans for the purpose of cleaning by repeated blows after discharge.

Ratchet Wheel — A wheel with teeth arranged to engage a pawl and prevent rotation in a reverse direction, but which permits unobstructed rotation in a normal direction.

Rated Capacity — An established capacity value.

Reaction Type Vibrating Feeder — An arrangement in which the spring-supported pan is vibrated by motion imparted to the pan and to the counter-balanced reaction mass simultaneously.

Receiving Hopper — A hopper used to receive and direct material to a conveyor.

Receiving Plate — A flat surface for receiving bulk material or objects prior to advancing the load to a conveyor. (*See also* 'Loading Plate'.)

Receiving Station — The location or device on a conveyor or conveyor systems where bulk material or objects are loaded or otherwise received onto the conveyor.

Reciprocating Beam Conveyor — One or more parallel reciprocating beams with tilting dogs or pushers, arranged to progressively advance objects (*see* Fig. 61).

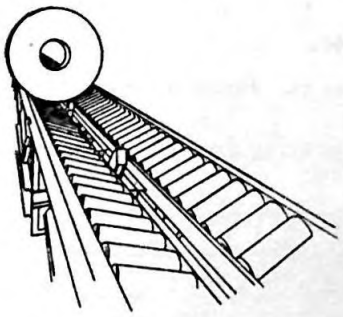


FIG. 61

Reciprocating Beam Feeder — One which separates and delivers objects by means of pushing dogs or flights attached to one or more reciprocating beams.

Reciprocating Car Conveyor — *See* ' Vertical Reciprocating Conveyor '.

Reciprocating Feeder — A reciprocally driven plate or pan operating under a head of bulk material.

Reciprocating Flight Conveyor — A reciprocating beam or beams with hinged flights arranged to advance bulk material along a conveyor trough (*see* Fig. 62).

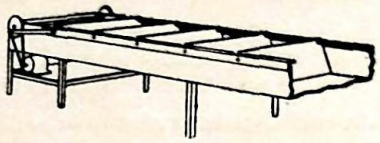


FIG. 62

Reciprocating Hoist — *See* ' Vertical Reciprocating Conveyor '.

Reciprocating Lift — *See* ' Vertical Reciprocating Conveyor '.

Reciprocating Tray — *See* ' Vertical Reciprocating Conveyor '.

Recirculating Load — *See* ' Circulating Load '.

Reclaimer — A travelling machine used in connection with a blending system equipped with an oscillating harrow and a reversible flight conveyor. The reclaimer advances against the end of the pile and the oscillating harrow disturbs the material, causing it to flow downward to the flight conveyor which conveys the material to the reclaiming conveyor.

Reclaiming Conveyor

a) Any of several types of conveyors used to reclaim bulk materials from storage.

b) The conveyor which receives material from the reclaimer in a blending system.

Reducer — *See* ' Speed Reducer '.

Refuse Conveyor — An adaptation of drag chain conveyor.

Regenerative Drive — A drive is regenerative when the operation of the conveyor results in power being produced and absorbed by the prime mover.

Regulating Gate — A gate used to vary size of opening so as to control the flow of material through the opening. (*See* ' Bin Gate '.)

Regulating Plate — A plate which is adjustable or movable to permit varying the size of the opening through which material passes.

Regulating Valve — *See* ' Regulating Gate '.

Reinforced Cover — *See* ' Step Pad '.

Reject Table — A conveyor for stacking reject sheets in a rolling mill.

Renewable Rim Wheel — (Sprockets, Traction, etc) a wheel having separate split rim sections that may be changed without disturbing the hub portion.

Reserve Storage — That storage of bulk material in the lower portion of a silo, bunker, or bin which is maintained for future use.

Resquaring Unit — A combination of conveyors and mechanisms used for cutting and slitting strip or sheets in a metal processing operation.

Retarder — Any device used to slow the rate of travel of bulk material or objects on a conveyor.

Retarding Conveyor — Any type of conveyor used to retard the rate of movement of bulk materials, packages or objects where the slope is such that the conveyed material tends to propel the conveying medium.

Return Belt — The belt on the strand or run returning to the loading point.

Return Belt Training Idler — *See* ' Belt Training Idler '.

Return Idler — A flat idler supporting the return run of the belt.

Return Roller — *See* ' Return Idler '.

Return Run — That portion of the conveying medium that returns from the discharge to the loading end of a conveyor.

Return Track — The strips or track supporting the conveying medium on the return run.

Reverse Step Ply — A construction of rubber conveyor belt of uniform thickness which has a thicker top cover at the edges. This is accomplished by stepping down the top plies from the centre to each side, and filling in the extra spaces at the edges with cover stock.

Ribbon Belt Conveyor — *See* ' Multiple Ribbon Belt Conveyor '.

Ribbon Conveyor — *See* ' Ribbon Flight Screw Conveyor '.

Ribbon Flight — A conveyor screw flight proportioned to provide a space between it and the internal supporting pipe or shaft when mounted thereon.

Ribbon Flight Conveyor Screw — A conveyor screw in which the conveyor screw flight is of the ribbon flight type.

Ribbon Flight Screw Conveyor — A screw conveyor having a ribbon flight conveyor screw (*see* Fig. 63). (*See also* ' Screw Conveyor '.)

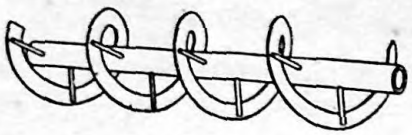


FIG. 63

Rider Plate — A flat plate attached to extended chain pins and projecting crosswise to the chain for supporting the conveying medium from the track.

Right Hand — *See* ' Hand '.

Rigid Coupling — A device for permanently and rigidly connecting two shafts. Commonly called ' flanged couplings ', rigid couplings do not provide for any misalignment of the shafting.

Rigid Wheel Truck — A portable conveyor truck with a fixed wheel axle.

Ring Pin — A forged chain pin having a ring arrangement on one end. Usually placed adjacent to a trolley for towing floor trucks by means of a chain hitch.

Riveted Chain — A chain in which the ends of the pins are headed and/or swaged or riveted so that chain cannot be disassembled without cutting off the pin.

Rivetless Chain — A straight side-bar chain having a double headed pin locked in the outside side bars and which engages the live bearing seats inside the ends of a loop-shaped centre link (*see* Fig. 64).

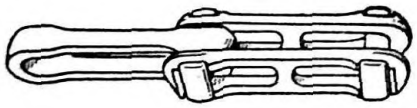


FIG. 64

Rocking Feeder — One which employs a rocking motion to effect separation and delivery of objects.

Roll — A part generally of circular cross section designed to revolve about a fixed axis. The face may be corrugated, ribbed or fluted and straight, tapered, concave or otherwise contoured.

Roll Feeder — A smooth, fluted, or cleated roll or drum which rotates to deliver packages, objects or bulk materials (*see* Fig. 65).

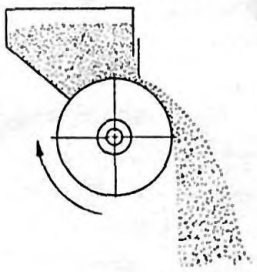


FIG. 65

Roller

a) A round part free to revolve about its centre and roll on its outer surface. The face may be straight, tapered, crowned, concave, or flanged.

b) A component part of a roller chain in which it may serve only to reduce frictional loss occurring as the chain negotiates sprockets. Rollers may also serve as the rolling support for the chain and the load being conveyed.

Roller Apron Conveyor — *See* ' Roller Slat Conveyor '.

Roller Bearing End Thrust — A screw conveyor end bearing unit incorporating a roller thrust bearing. May be equipped with a drive or end shaft.

Roller Bearing Pillow Block — A pillow block using rollers as a bearing element.

Roller Bed — A series of rollers used to support the conveying medium.

Roller Chain — A chain having a roller encircling the barrel or bushing of each link joint. (*See also* Steel Side Bar Bushed Roller Chain; and Transmission Roller Chain.)

Roller Conveyor — A series of rolls supported in a frame over which objects are advanced manually, by gravity or by power (*see* Fig. 66).

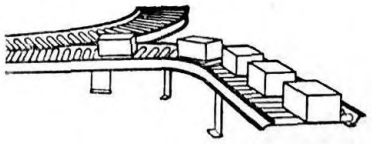


FIG. 66

Roller Conveyor Curve — An arcuate or circular section of roller conveyor.

Roller Conveyor Differential Curve — *See* ' Differential Curve '.

Roller Conveyor, Shock Absorbing — *See* ' Spring Mounted Roller Conveyor '.

Roller Flight Conveyor — *See* ' Roller Slat Conveyor '.

Roller Link — A centre link having rollers mounted on the two bushings.

Roller Rack — A storage rack having tiered load-supporting surfaces of rolls.

Roller Slat Conveyor — A slat conveyor employing rollers for slats (*see* Fig. 67).

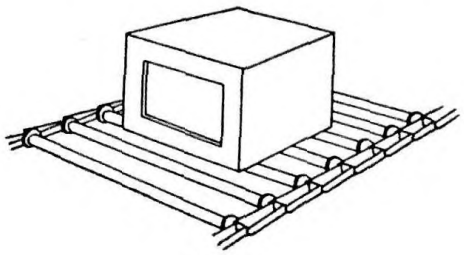


FIG. 67

Roller Spiral — An assembly of curved sections of roller conveyor arranged helically and over which objects are lowered by gravity (*see* Fig. 68).

FIG. 68

Roller Table — *See* Roller Slat Conveyor; and Live Roller Conveyor.

Roller Track — *See* ' Roller Bed '.

Roller Turn — A series of vertical rolls mounted in a frame to guide a conveyor chain around a horizontal curve.

Roller Working Bearing Pressure — The working load of the chain divided by the roller bore times the length of roller bearing surface in engagement.

Rolling Apron Bin Gate — A gate in which the flow controlling medium consists of an endless belt supported on closely spaced rollers which substitutes rolling effort for sliding effort while being opened or closed. In principle, it operates similarly to an inverted crawler tread.

Rolling Chain Conveyor — One or more endless roller chains on which packages or objects are carried (*see* Fig. 69).

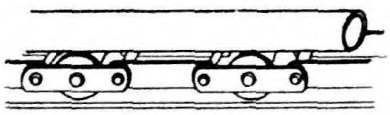


FIG. 69

Rolling Roll Conveyor — *See* ' Roller Slat Conveyor '.

Rolling Roll Inspection Table — *See* ' Roller Slat Conveyor '.

Roll-Over — A device used to rotate an object around its axis of travel for repositioning or inspection.

Roll-Over Feeder — One which up ends or positions objects during the separation and delivery operations.

Rollway Skid — A roller conveyor having brakes to prevent the rolls from turning except in one direction.

Room Conveyor — *See* ' Underground Mine Conveyors '.

Rope and Button Conveyor — *See* ' Disc or Button Conveyor '.

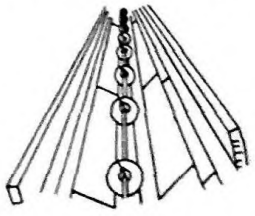


FIG. 70

Rotary Belt Cleaner — A series of straight or spiral blades symmetrically spaced about the axis of rotation and caused to scrape or beat against the belt for the purpose of cleaning (*see* Fig. 71). (*See also* ' Brush Cleaner '.)

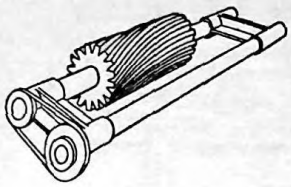


FIG. 71

Rotary Bin Check Valve — A rotary valve, manual or power-operated, designed to deliver a constant flow of fine material. May be used as ' volumetric feeders ' and may be equipped with totalizers calibrated in cubic feet (volume) or pounds (weight).

Rotary Cut-Off Valve — A gate or valve having a close fitting slotted cylindrical rotor operating in the slotted bore of the gate body.

Rotary Discharge — A device which permits discharge of material, usually in a controlled amount, from a pneumatic conveyor tube system without interrupting air flow.

Rotary Feeder — A rotating device used to place an object onto or remove an object from a conveyor. (*See also* ' Roll Feeder '.)

Rotary Plate Feeder — *See* ' Rotary Table Feeder '.

Rotary Plow Feeder — A self-propelled carriage travelling parallel to and above a conveyor, and on which is mounted power-operated rotating arms that plow material from a continuous shelf onto the conveyor below.

Rotary Table Feeder — A rotating horizontal circular table to which material flows from a round bin or hopper opening and from which it is discharged by a plow (*see* Fig. 72).

Rotary Unloader — *See* ' Rotary Feeder '.

Rotary Valve — *See* ' Rotary Cut-off Valve '.

Rotary Vane Bin Valve — A type of valve or gate in which radially spaced vanes form pockets or containers for a measured amount of material in each pocket which can be discharged as a batch or a series of batches. Usually power-operated but can be operated manually. (*See also* ' Rotary Vane Feeder ')

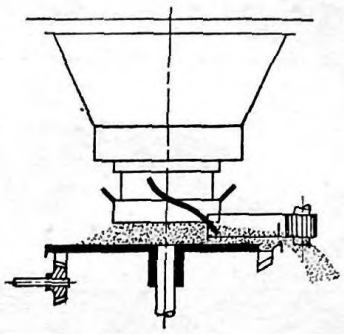


FIG. 72

Rotary Vane Feeder — A feeder composed of a horizontal roller provided with radial vanes forming pockets giving positive extraction and discharge of free flowing material (*see* Fig. 73).

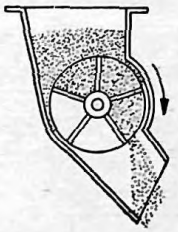


FIG. 73

Rotating Casing Screw Conveyor — A screw conveyor in which the tubular casing rotates at a different speed or in an opposite direction to the conveyor screw. (*See also* ' Screw Conveyor '.)

Rubber Conveyor Belt — A conveyor belt consisting of a central stress-bearing carcass for transmitting power enclosed in rubber covers to protect the carcass from abrasion and atmospheric changes. The carcass usually consists of plies of cotton duck fabric, but other constructions used are cotton cords, steel cables, woven fabrics of synthetic fibres such as rayon, nylon, orlon, dacron, glass and asbestos. The rubber covers are furnished in various thicknesses and qualities of rubber compounds.

Run — The distance or route covered by a conveyor.

Run-Around — A conveyor in the form of a circuit as distinguished from a shape in which the carrying and return runs travel substantially the same path. (*See also* ' Closed Circuit '.)

Run-in-Table — *See* ' Entry Table '.

Run-out Table — Any conveyor carrying material from the discharge end of a processing machine, such as metal from a rolling mill.

S

Sack Feeder — *See* ' Bag Feeder '.

Saddle — A screw conveyor trough support.

Safety Cage — A guard built about a ladder to prevent a climber from falling backwards.

Safety Dog — *See* ' Holdback Dog '.

Safety Factor — A numerical factor by which ultimate strength is divided to arrive at a safe allowable or working stress in a machine or structural part. The value of the safety factor is increased where shock loads and other adverse operating conditions are encountered.

Safety Ladder — A ladder with a safety cage.

Sag — The difference between the sagging path a conveyor belt actually takes due to the imposed load of material and its own weight, and the theoretical plane tangent to the top of the supporting idler rolls. This sag is limited by proper correlation of idler spacing and belt tensioning.

Sag Belt Tension — The minimum tension in any portion of the carrying run of belt necessary to prevent excessive sag of the belt between belt idlers.

Sampler — A device for periodically selecting a portion of the material being handled.

Sanitary Hook — *See* ' Goose Neck Hook '.

Scale, Totalizing Conveyor — *See* ' Automatic Conveyor Scale '.

Scalp — The process of removing oversize lumps on a continuous basis from a stream of bulk material.

Scraper — A blade or blades caused to bear against the moving conveyor belt for the purpose of removing material sticking to the conveyor belt.

Scraper Conveyor — *See* ' Flight Conveyor '.

Screen — A perforated, slotted or meshed plane surface used to separate coarser from finer parts.

Screen Box — A screened compartment to remove foreign matter from the air stream of a pneumatic conveyor.

Screen Chute — A discharge chute equipped with a screen section, either stationary or vibrating, to remove the finer portions of the material being handled from the major line of flow.

Screen Loading Chute — A type of chute with a bar screen or grizzly bottom which permits fines to fall onto the conveyor belt first, providing a cushion for the larger material which passes over the screen.

Screw — *See* ' Conveyor Screw '.

Screw, Cast Flight — *See* ' Cast Sectional Flight Conveyor Screw '.

Screw Auger Conveyor — A conveyor in which the conveying element is in the form of a solid helix attached to a central rotating shaft working within a tube normally inclined at an angle to the horizontal (*see* Fig. 74). The shaft normally rotates at a relatively high speed. The conveyor is generally used for intermittent light duties and for free flowing non-abrasive material.

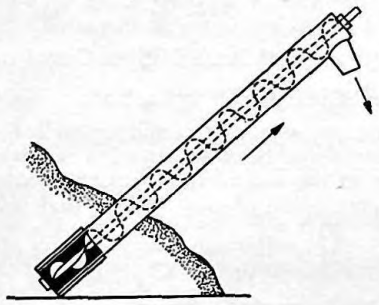


FIG. 74

Screw Conveyor — A conveyor in which the conveying element is in the form of a spiral flight attached to a central rotating shaft working within a trough (*see* Fig. 75).

Screw Conveyor Hanger — *See* ' Hanger '.

Screw Conveyor, Internal — *See* ' Internal Ribbon Conveyor '.

Screw Conveyor Trough — *See* ' Trough '.

Screw Conveyor Trough Lining — A curved U-shaped plate used to form a bottom in a square wood trough or as a wearing plate in a steel trough.

Screw, Cut Flight — *See* ' Cut Flight Conveyor Screw '.

Screw, Cut-and-Folded Flight — *See* ' Cut-and-Folded Flight Conveyor Screw '.

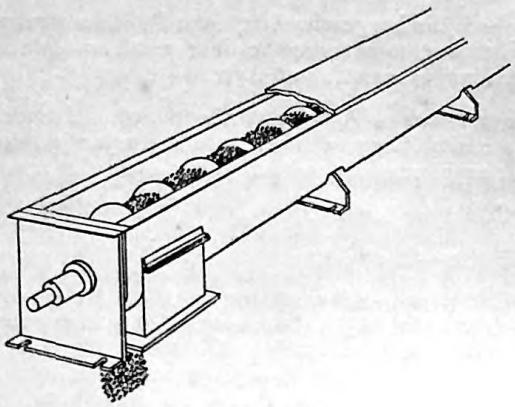


FIG. 75

Screw, Double Flight — *See* ' Double Flight Conveyor Screw '.

Screw Feeder — *See* ' Conveyor Type Feeder '.

Screw Flight Pitch — *See* ' Pitch '.

Screw, Helicoid — *See* ' Helicoid Flight Conveyor Screw '.

Screw Lift — *See* ' Vertical Screw Conveyor '.

Screw, Long Pitch — *See* ' Long Pitch Conveyor Screw '.

Screw Lug — *See* ' Conveyor Screw Lug '.

Screw Mixer — *See* ' Screw Type Mixing Conveyor '.

Screw, Ribbon — *See* ' Ribbon Flight Conveyor Screw '.

Screw, Sectional Flight — *See* ' Sectional Flight Conveyor Screw '.

Screw Takeup — (*see* Fig. 76).

a) A takeup in which movement of the bearing block is accomplished by means of a screw.

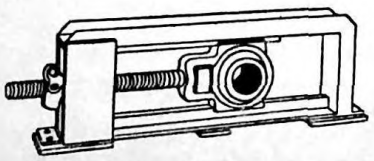


FIG. 76

b) A takeup assembly having provision for manual adjustment by one or more screws to compensate for stretch, shrink or wear of conveying or power transmission medium.

Screw Tube Conveyor — A conveyor in which the conveyor element is in the form of a ribbon helix attached to the inside of a revolving tube.

Screw Type Mixing Conveyor — A type of screw conveyor consisting of one or more conveyor screws, ribbon flight or cut flight conveyor screws with or without auxiliary paddles (*see* Fig. 77). (*See* ' Screw Conveyor '.)

Screw Washer — A type of conveyor consisting of one or two inclined parallel conveyor screws in a trough having a receiving tank and an overflow weir at the lower end and a discharge opening at the upper end. (*See also* ' Screw Conveyor '.)

FIG. 77

Scroll — *See* ' Conveyor Screw '.

Scroll Conveyor — *See* Ribbon Flight Screw Conveyor; and Screw Conveyor.

Scroll Feeder — *See* Conveyor Type Feeder; Ribbon Flight Screw Conveyor; and Screw Conveyor.

Seal Gland — A device containing a packing material around a shaft.

Sectional Flight — A short piece of conveyor screw flight, formed from a circular plate, the axial length of which is slightly greater than one pitch.

Sectional Flight Conveyor — *See* ' Screw Conveyor '.

Sectional Flight Conveyor Screw — A conveyor screw having the conveyor screw flight made up of a series of sectional flights.

Segmental Bin Gate — *See* ' Quadrant Gate '.

Selective Feeder — *See* ' [Automatic Feeder (a)] '.

Self-Aligning Idler — *See* ' Belt Training Idler '.

Self Cleaning — A conveyor is self-cleaning if, by operating for a time after the feed is shut off, it will deliver substantially all material contained in it to the discharge point.

Self-Feeding Conveyor — Any type of conveyor so arranged as to feed itself automatically without the necessity of using a separate feeder.

Self-Feeding Portable Conveyor — Any type of power-propelled conveyor designed to advance into a pile of bulk material, thereby automatically feeding itself.

Self-Propelled Belt Tripper — A belt conveyor tripper which is moved either by power imparted from a moving belt or from its own motor. (*See* Belt-Propelled Tripper; Cable-Propelled Belt Tripper; and Motor-Propelled Belt Tripper.)

Self-Supporting Casing — A casing designed as a continuous hollow column supporting the weight of the complete elevator and requiring only lateral ties to adjacent structures.

Self-Training Idler — *See* ' Belt Training Idler '.

Self-Unloading Boat, Ship or Barge — A ship equipped with a continuous conveyor handling system forming a self-contained unit which can unload a cargo of bulk materials without the aid of shore or dock facilities.

Sending Box — *See* ' Terminal '.

Separator — A unit used to separate material from the air stream of a pneumatic conveyor by use of centrifugal action or by filters.

Sequence Starting — An arrangement of interlocking controls for a series of conveyors by means of which the conveyor at the final discharge end of the system is started first to be followed in sequence until the last conveyor at the loading end is set in motion. The order of stopping the units of such a series is directly opposite to the sequence for starting. The conveyor under the loading end is stopped first and the conveyor at the final discharge end is stopped last. This arrangement prevents any pile up of material in the transfer chutes between the various units of the system.

Service Factor — The amount by which the normal rating of a unit is reduced to compensate for increase service requirements.

Shaft — A bar, usually of steel and usually round, to support rotating parts or to transmit power.

Shakeout

a) A device for separating sand and casting from poured molds in a foundry.

b) The process by which agglomerated material is agitated so that particles are shaken apart. Especially applied to foundry conveyors where sand is to be separated from cast metal.

Shaker Conveyor — A type of oscillating conveyor.

Shear Pin — *See* ' Shear Pin Device '.

Shear Pin Device — A safety device assembly designed with a free driven component such as a wheel, sheave or sprocket connected by a pin to a driving component such as a hub. Pin must be of a diameter necessary to drive the conveyor within safety limits and must shear when the safety limit is exceeded. When the pin shears, the driving component disconnects from the driven component.

Shear Pin Hub — *See* ' Shear Pin Device '.

Shear Pin Sprocket Wheel — A keyless sprocket wheel designed to match and be connected to a keyed hub by means of a shear pin.

Shear Table — A conveyor with shock absorbing features, for supporting and feeding metal plates and shapes to a shear.

Sheet Classifier — A combination of conveyors and associated mechanisms used to facilitate the inspection, sorting and piling of sheet metal into the categories of primes, menders and rejects.

Sheet Drying Conveyor — A disc type of live roller conveyor equipped with air outlets from a blower to remove dampness from processed sheet metal while being conveyed.

Sheet Drying Table — *See* ' Sheet Drying Conveyor '.

Sheet Floater — *See* ' Sheet Separator '.

Sheet Metal Spiral — *See* ' Spiral Chute '.

Sheet Piler — The combination of associated mechanism with conveying equipment for the piling of metal sheets and for removal of stacks.

Sheet Processing Conveyor — A system of conveyors designed to handle metal strip or sheets through slitting, shearing, piling, and stack removing operations.

Sheet Separator — A mechanism which parts the ends of piled sheets so that they may be picked up, singly or in groups, either manually or mechanically.

Ship Ladder — A very steep stairway.

Ship's Conveyor Elevator — A dock mounted pocket or suspended tray conveyor arranged to be lowered into a ship's hold to varying depths for the purpose of loading or unloading packages and objects. Not to be confused with a marine leg.

Shock Absorbing Roller Conveyor — *See* ' Spring Mounted Roller Conveyor '.

Shoe — An attachment or component for purposes of absorbing thrust or wear or for providing support.

Short Pitch Conveyor Screw — A conveyor screw in which the pitch of the conveyor screw flight is less than normal. (*See also* ' Pitch '.)

Shuttle Conveyor — Any conveyor, such as belt, chain, pan, apron and screw in a self-contained structure movable in a defined path parallel to the flow of the material (*see* Fig. 78).

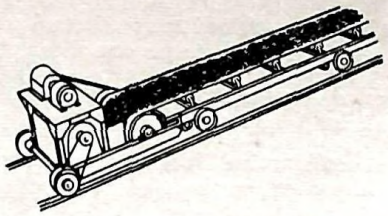


FIG. 78

Side Bar — That portion of a chain link that longitudinally connects the joint portions at each end of the link.

Side Ender — A device to position an object on its end by rotation at a right angle to its direction of travel.

Side Links — *See* ' Side Bar '.

Side Pusher Conveyor — A trolley conveyor with arms cantilevered to the side to push free trolleys on parallel track.

Side Tilter — A device which causes an object, usually round to be discharged sideways by tilting a portion of the conveyor bed or trough.

Side Pull *En Masse* **Conveyor** — An arrangement of horizontal closed circuit conveyor in which the tension element is at one side and above the moving stream of material.

Sidewalk, Moving — *See* ' Moving Walk '.

Silent Chain — *See* ' Inverted Tooth Chain '.

Silo — A structure, usually round, for storage of material.

Single Arm Pulley — A pulley with a single set of spokes and hub.

Single Beaded Apron Pan — An apron pan having a bead along one edge which overlaps the plain edge of the adjacent pan.

Single Leg Bucket Elevator — A bucket elevator having both runs enclosed in a single common casing.

Single Plane Idler — A troughed belt idler in which concentrator roll and centre roll shafts are in the same vertical plane.

Single Width Chain — A chain having one row of links.

Skate-Wheel Conveyor — A type of wheel conveyor making use of a series of skate-wheels mounted on common shafts or axles or mounted on parallel spaced bars on individual axles (*see* Fig. 79).

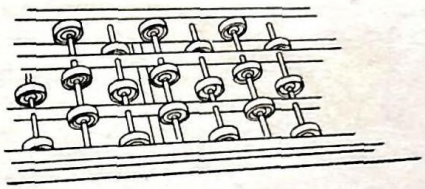


FIG. 79

Skew Table — A live roller conveyor having its rolls skewed for the purpose of moving objects laterally against a guide member. It may have a fixed or adjustable guide member. (*See also* 'Skewed Roller Conveyor'.)

Skewed Roller Conveyor — A roller conveyor having a series of rolls skewed to direct objects laterally while being conveyed (*see* Fig. 80).

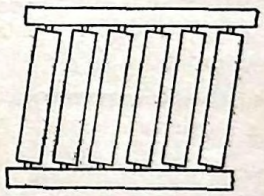


FIG. 80

Ski Hoist — A type of conveyor adapted for carrying or assisting skiers to the top of a slope. It is also used for carrying or assisting workmen up or down a slope.

Ski Tow — *See* 'Ski Hoist'.

Skid

a) A support mounting for a portable conveyor consisting of skids or runners.

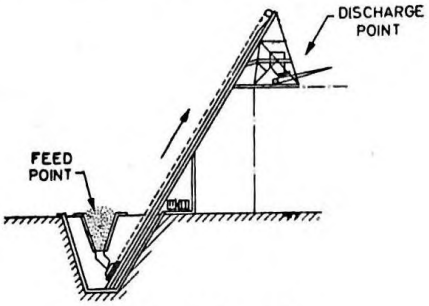
b) A runway consisting of two or more runners for moving cylindrical objects by hand or by gravity.

Skim Coat — A thin layer or coat of special rubber compound placed between the plies of the carcass of the conveyor belt to improve flex life and impact resistance.

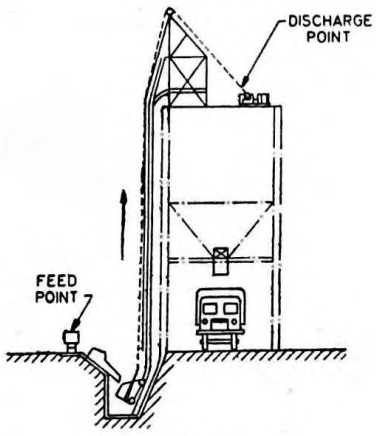
Skip Bucket — The tub or bucket used for containing the material conveyed by a skip hoist.

Skip Bucket Bail — *See* ' Bail '.

Skip Hoist — A bucket or car operating up and down a defined path, receiving, elevating, and discharging bulk materials (*see* Fig. 81).



Inclined Skip Hoist



Vertical Skip Hoist

FIG. 81

Skip Hoist Loading Gate — *See* ' Loading Gate '.

Skip Hoist Winding Machine — The hoisting mechanism of a skip hoist.

Skirt Board — *See* ' Skirt Plate '.

Skirt Plate — Plates erected vertically and located longitudinally closely above the carrying medium to confine the material and prevent spillage. Usually used at point of entry of material onto a conveyor where turbulence is encountered and when depth of material load is such that spillage would occur if not confined.

Slack Cable Switch — A device installed on skip hoists to automatically shut off power supply when the hoisting cable becomes loose or has slack due to accident or jamming.

Slack Side Belt Tension — The tension at the point where the belt leaves the driving pulley in the case of a single pulley drive or where it leaves the second pulley in a tandem or dual pulley drive. ' Slack side tension ' is the amount necessary to prevent slippage between the belt and the driving pulley or pulleys. When added to the ' effective tension ', the sum is equal to the ' tight side tension '.

Slat — A member supported between chains in a slat conveyor. The series of slats form the conveying bed.

Slat Conveyor/Elevator — A conveyor or elevator consisting of a belt or one or more endless chains to which non-overlapping, non-interlocking spaced slats are attached for carrying loads (*see* Fig. 82).

Slatted Pulley — A pulley having a face made up of a series of axial slats.

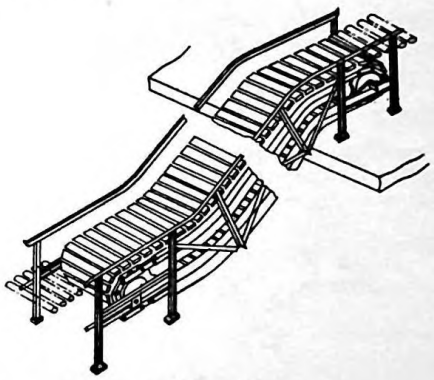


FIG. 82

Sleeve Bearing — A bearing of tubular construction. (*See also* Babbitted Bearing; Bronze Bearing; and Plain Bearing Pillow Block.)

Slide — A sloped surface to permit free flow of bulk materials, packages or objects without particular confinement or restraint at point of discharge. Similar to a straight chute but without restraining sides or top. (*See also* ' Chute '.)

Slide Gate — A type of gate in which the gate plate slides in guides.

Slider Bed — A stationary surface on which the carrying run of a belt conveyor slides.

Sliding Base — A support providing controlled movement.

Sliding Chain Conveyor — One or more endless chains sliding on tracks on which packages or objects are carried (*see* Fig. 83).

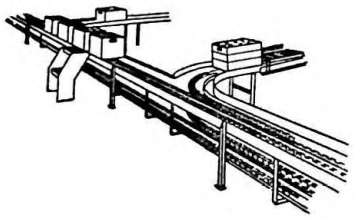


FIG. 83

Sling Conveyor — *See* ' Pocket Conveyor '.

Slip — The action of a belt which takes place when the pull exceeds the friction grip on the pulley, imposing a speed differential between the pulley surface and the belt.

Slope — *See* ' Grade '.

Slope Conveyor — Usually a troughed belt conveyor used for transporting coal or ore through an inclined passage to the surface from an underground mine. (*See also* Apron Conveyor; Belt Conveyor; and Flight Conveyor.)

Sludge Collector — *See* ' Flight Conveyor '.

Snow Loader — *See* Bucket Loader; and Portable Conveyor.

Snub Drive — A drive where the arc of contact with the drive wheel or pulley has been increased by the use of a snub wheel or pulley.

Snub Frame — *See* ' Bend Frame '.

Snub Pulley — Any pulley used to increase the arc of contact between a belt and the drive pulley. (*See also* ' Bend Pulley '.)

Snub Roll — *See* Bend Pulley; and Snub Pulley.

Snub Shaft — A shaft which supports a snub wheel or pulley.

Snub Sheave — Any sheave used to change the direction of travel of a rope, cable or coil chain conveyor, etc.

Snub Sprocket — *See* ' Snub Wheel '.

Snub Wheel — A wheel so located as to increase the arc of contact of a conveyor or drive chain on another wheel.

Solenoid — An electromagnetic control.

Solid Journal Bearing — A bearing having a one-piece bearing block.

Solid Woven Conveyor Belt — A construction of conveyor belt consisting of multiple plies of fabrics woven into one piece, which is done on looms designed for this purpose. Stripes are woven into the belt to show the number of plies, which range from two to ten. Impregnating and coating treatments are frequently employed.

Sorting Table — Any horizontal conveyor where operators, along its side, sort bulk material, packages or objects from the conveyor.

Spaced Bucket Elevator — A bucket elevator in which the buckets are not spaced continuously.

Speed — The length of belt, chain, cable, or other linkage which passes a fixed point within a given time. It is usually expressed metres/minutes. In the case of the rolling chain conveyor, the load is moved at a rate double the chain speed. In screw conveyors, the speed is expressed in terms of ' revolutions per minute ' and the speed at which the material is conveyed is dependent upon speed, pitch of the screw, type of flight, angle of inclination, nature of material, etc.

Speed Reducer — A power transmission mechanism designed to provide a speed for the driven equipment less than that of the prime mover. Can be either constant or variable speed. Most generally totally enclosed for lubrication and prevention of entry of foreign materials.

Speed Indicator — An instrument for visually registering speed.

Spider Feeder — One which consists of a rotatable horizontal shaft supporting spaced arms which separate and deliver long and/or flat objects.

Spindle Conveyor — A chain-on-end conveyor in which the chain pins are extended in a vertical plane, usually of enlarged diameter in that portion above the chain, on which special revolvable fixtures can be rotated, for the

purpose of spraying or drying. Outboard rollers or sliding shoes support the chain and product.

Spinner Unit — A power-driven belt or chain operating in a horizontal plane used for revolving rotatable fixtures attached to a spindle conveyor or a trolley conveyor for purposes of spraying or drying.

Spiral Chute — A continuous curved trough over which bulk material or objects are guided while being lowered by gravity in a substantially helical path (*see* Fig. 84).

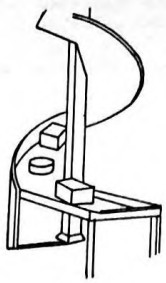


FIG. 84

Spiral Conveyor — *See* Roller Spiral; Screw Conveyor; and Wheel Spiral.

Spiral Enclosure — *See* ' Spiral Shell '.

Spiral Roller Conveyor — *See* ' Roller Spiral '.

Spiral Runway — A roller spiral, spiral chute or wheel spiral.

Spiral Shell — The outer enclosure of an enclosed spiral chute.

Spiral Slide — *See* ' Spiral Chute '.

Spiral Slideway — *See* ' Spiral Chute '.

Spiral Tread Plate — One of the formed plates used in making up the tread, trough or bed of a spiral chute.

Spiral Trough — The conveying area of a spiral chute bed or tread and guards.

Split Flight Coupling — A rigid type shaft coupling split parallel to the shaft and having one-half of a conveyor screw flight integral with each coupling half.

Split Journal Bearing — A bearing having a block or housing consisting of two main parts parted or split at the centreline of the shaft.

Spool Idler

a) A belt idler made up of a series of spaced tires.

b) A belt idler with loosely-mounted tapered concentrator rolls mounted on a common shaft with flat centre idlers.

Spool Type Roller Conveyor — A type of roller conveyor in which the rolls are of conical or tapered shape with diameter at ends of roll larger than at the centre.

Spout — A closed chute for bulk materials or objects. (*See also* ' Telescoping Spout '.)

Spray Cleaner — An arrangement of spray nozzles for the purpose of cleaning hydraulically.

Spring Mounted Roller Conveyor

a) A type of roller conveyor where the ends of each roll is supported on a spring.

b) A section of roller conveyor supported on springs.

Spring Takeup — A takeup mechanism where adjustments are made automatically by the potential energy of springs.

Sprocket — *See* ' Sprocket Wheel '.

Sprocket Drive — *See* Chain Drive; and Corner Sprocket Drive.

Sprocket, Snub — *See* ' Snub Wheel '.

Sprocket, Takeup — *See* ' Takeup Sprocket Wheel '.

Sprocket Turn — A horizontally placed idler sprocket used to direct a conveyor chain around a horizontal curve.

Sprocket Wheel — A wheel with suitably shaped and spaced cogs or teeth to engage with the links of a chain.

Spur — *See* Holdback Dog; and Pusher Dog.

Squaring Table — A conveyor on which plates or sheets are squared prior to cutting or slitting. (*See also* ' Skew Table '.)

Squeeze Roll Drive — *See* ' Pinch Roll Drive '.

Stabilized Tray Conveyor — *See* ' Over-and-Under Conveyor '.

Stacker

a) A conveyor adapted to piling or stacking bulk materials, packages or objects. (*See* Apron Conveyor; Belt Conveyor; Flight Conveyor; Portable Conveyor; and Slat Conveyor.)

b) A fixed or pivotally mounted boom conveyor.

c) With a blending system the stacker operates over the stocking conveyor in a manner similar to a wing tripper to build layered piles or beds of material parallel to the stocking conveyor. (*See also* Boom Conveyor; Portable Conveyor; and Wing Belt Tripper.)

Stacker Conveyor — *See* ' Stacker '.

Stand — The centre and end supports of rolls of a troughing idler. (*See also* Jack; and Pony Support.)

Star-Feeder — *See* ' Rotary Vane Feeder '.

Star Wheel — A horizontal star arrangement attached to a swivel hook by which the object carried may be automatically revolved by contact with a projecting arm.

Star Wheel Feeder — One which utilizes a power-operated horizontal star wheel or spider to effect separation and delivery of circular objects.

Starting Belt Tension — The tension necessary to accelerate a loaded belt from rest to normal operating speed and is in addition to ' operating tension '.

Starting Effort — The force required to put a conveying medium in motion when power is applied.

Starting Sequence Controls — *See* Interlocking Controls; and Sequence Starting.

Station — The location on a conveyor or conveyor system where bulk material or objects are received or loaded onto conveyor or are discharged from conveyor. (*See also* ' Terminal '.)

Steel Band Belt — A belt of relatively thin carbon or stainless strip steel alloyed and heat treated to withstand continued flexing over pulleys.

Steel Band Conveyor — A flat belt conveyor in which the carrying medium is a thin, flexible steel band.

Steel Cable Conveyor Belt — A rubber conveyor belt in which the carcass is composed of a single plane of steel cables which acts as a longitudinal tension-carrying member and includes two or more plies of fabric to provide transverse strength and hold the cables together.

Steel Side Bar Bushed Chain — A fabricated all steel chain made up of either successive offset links with bushing barrels or alternate centre links with bushing barrels and outside links connected by means of chain pins (*see* Fig. 85).

Steel Side Bar Bushed Roller Chain — A fabricated all steel roller chain.

Steel Thimble Roller Chain — *See* ' Steel Side Bar Bushed Roller Chain '.

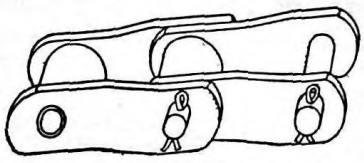


FIG. 85

Step Bearing — A bearing mounted at the lower end of a vertical shaft and used to support that shaft and any components mounted upon it. Radial support for the end of the shaft may be incorporated in the design.

Step Pad — A construction of rubber conveyor belt having a defined area of greater thickness down the centre. This is accomplished by molding the rubber cover thicker in the centre area.

Step Ply — A construction of rubber conveyor belt of uniform thickness which has a thicker rubber cover at the centre. This is accomplished by arranging more plies at the sides of the belt than in the centre. Usual constructions are 5 by 4 ply or 6 by 4 ply and in each case filling in this extra space with cover stock.

Stick Conveyor — *See* ' Cross Bar Conveyor '.

Stitched Canvas Conveyor Belt — A construction of conveyor belt made up of plies of cotton fabric stitched together. Stitched canvas belts may be untreated, impregnated, or coated.

Stocking Conveyor — A belt conveyor in a blending system which receives bulk materials for delivery to the stacker conveyor.

Storage Bin — *See* ' Bin '.

Straight Chute — A sloped chute designed to transfer bulk materials, packages, or objects in a straight line from points of entry to points of discharge. (*see* Fig. 86). (*See also* ' Chute '.)

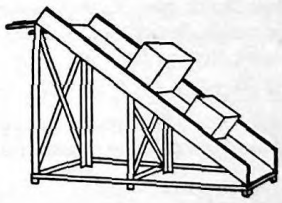


FIG. 86

Straight Link Chain — *See* ' Straight Side Bar Chain '.

Straight Side Bar Chain—A chain made of alternating centre and outside links.

Straightening Table — *See* ' Skew Table '.

Straight Face Pulley — A pulley on which the face is a straight cylindrical drum.

Stretch — The increase in length which takes place when tension is imposed. This elongation is of two types, elastic and permanent. Elastic stretch is the temporary change in length which varies directly with the pull. Permanent stretch is the residual change in length after tensioning has been removed, which generally accumulates slowly over a period of time.

Stringers — The longitudinal supporting members between the head and foot terminal supports.

Stub Shaft — A pin or short shaft cantilevered from its mounting for supporting a bearing, wheel or other rotating member.

Stud Chain — *See* ' Steel Side Bar Bushed Chain '.

Super-Capacity Bucket Elevator — A type of continuous bucket elevator employing super-capacity elevator buckets (*see* Fig. 87). (*See also* ' Super-Capacity Elevator Bucket '.)

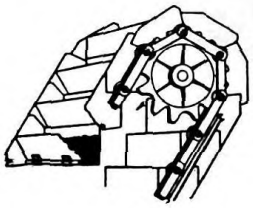


FIG. 87

Super-Capacity Elevator Bucket — A type of continuous elevator bucket used with a pair of chains in which the back of the bucket at the bottom extends backwards into space between the up and down runs to provide additional capacity without increase in length or projection.

Superstructure — Members to which the hanger steel is connected and which transfer the load to the building members.

Surge Hopper — A form of storage container used as a part of a conveyor system at any point where there is necessity to substantially vary the rate of flow of the material such as a change from intermittent flow to continuous

flow and *vice versa*. A surge hopper will receive and hold the material discharged from another conveyor or from a process machine while delivering it at a different rate to another conveyor or to another machine. Some form of feeder is often necessary to discharge a surge hopper.

Suspended Tray Conveyor — A vertical conveyor having one or more endless chains with suitable pendant trays, cars or carriers which receive objects at one elevation(s) and deliver them to another elevation(s) (*see* Fig. 88).

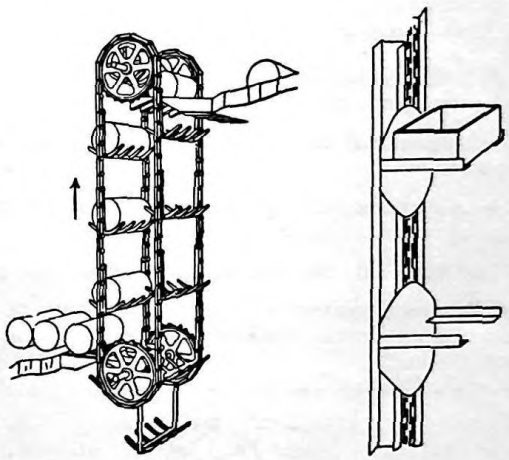


FIG. 88

Suspended Tray Elevator — *See* 'Suspended Tray Conveyor'.

Suspended Tray Lift — *See* 'Suspended Tray Conveyor'.

Sweep — *See* 'Deflector'.

Swing Arm Feeder — One which utilizes a movable or swinging arm to effect separation and delivery of objects.

Swinging Cut-Off Gate — *See* 'Overcut Gate'.

Switch

a) Any device for connecting two or more contiguous package conveyor lines.

b) An electrical control device.

c) In a power-and-free conveyor, that mechanism which accomplishes the transfer of a free line trolley from one track to another track at

converging or diverging sections of track. (Commonly called ' entrance and exit switches '.)

Switch Feeder — One utilizing a switch mechanism to separate and deliver objects in groups or as single units.

Swivel Attachment — Of various designs which are used for rotating objects carried on a trolley conveyor. They may be indexed at 90° or 180° and are usually suspended from a clevis attachment. (*See also* ' Star Wheel ').

Swivel Chain — A special pintle chain having joints which permit flexure of the chain in any (more than one) plane.

Swivel Chute — A chute so mounted that it may be rotated.

Swivel Link — A chain link provided with a pivot between the pitch points oints permit flexing at a right angle to the normal chain joint.

Swivel Spout — A spout or chute arranged to turn or rotate so that direction of discharge of material can be varied.

Swivel Wheel Truck — A conveyor truck on which the wheels can be positioned for longitudinal, lateral or radial movement.

T

Table Feeder — *See* ' Rotary Table Feeder '.

Tail End — Usually the end nearest to the loading point. (*See also* ' End Shaft '.)

Tail Frame — The structure which supports the machinery components at the tail end of a conveyor.

Tail Pulley — A pulley mounted at the tail end of a conveyor.

Tail Section — The frame or structure at the tail or loading end of a conveyor.

Tail Shaft — The shaft supporting the tail end machinery of a conveyor. (*See also* ' End Shaft '.)

Tail Sheave — A sheave mounted on the tail shaft.

Tail Sprocket — A sprocket wheel mounted on the tail shaft.

Take-Off Lip — That piece immediately adjacent to the moving surface of a moving walk, with a close clearance with respect to the carrying surface, where passengers make the transition between moving and stationary surfaces.

Takeup — The assembly of the necessary structural and mechanical parts which provide the means to adjust the length of belts, cables, chain, etc, to

compensate for stretch or shrink, and to maintain the proper tension. (*See also* Automatic Takeup; Counterweighted Takeup; Gravity Takeup; Screw Takeup; and Spring Takeup.)

Takeup Bearing Block — A bearing with a housing having provision for movement in the takeup frame. (*See also* ' Takeup '.)

Takeup Belt Tension — The amount of tension in the two runs of belt approaching and leaving the takeup pulley which will maintain proper ' effective tension ' at the driving pulley.

Takeup Pulley — A pulley mounted on the takeup shaft.

Takeup Shaft — The conveyor shaft which is moved along with the takeup as it is actuated.

Takeup Sheave — The sheave which is mounted on the takeup shaft.

Takeup Sprocket Wheel — A sprocket wheel mounted on the takeup shaft.

Tandem Drive — A double drive where two sets of driving terminals mechanically tied together and driven from a single power source are used to propel the conveyor belt.

Tangent Inlet — An inlet into a spiral chute at any intermediate point.

Tangent Outlet — An outlet from a spiral chute at any intermediate point.

Tapered Roller Curve — A curved section with tapered rolls. The taper on the rolls and the radii of the curve all radiate from a common point.

Telescoping Conveyor — A type of conveyor, the length of which may be varied by telescoping frame members (*see* Fig. 89). (*See also* ' Extendable Conveyor ',)

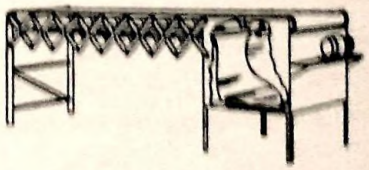


FIG. 89

Telescoping Spout — A type of spout the length of which may be varied by means of telescoping the body members.

Tension — *See* Chain Tension; Effective Belt Tension; Maximum Belt Tension; Sag Belt Tension; Slack Side Belt Tension; Starting Belt Tension; Takeup Belt Tension; and Tight Side Belt Tension.

Tension Plane — *See* ' Pitch '.

Terminal

a) That portion of a conveyor in which the direction of the conveying medium is substantially reversed or changed.

b) Any device designed to permit entrance of bulk material, objects or carriers or exit from the air stream within a pneumatic conveyor.

Thimble — *See* ' Bushing '.

Threshold Plate — A stationary plate on which pedestrians step when entering or leaving a passenger conveyor.

Through Rod — A lateral tie member passing through spaced parallel stands of chain.

Thrower Belt — *See* ' Box Car Loader '.

Throw-Off Carriage — *See* ' Belt Tripper '.

Thrust Bearing — A bearing designed to carry an axial load.

Tight Side Belt Tension — The tension at the point where the belt approaches the driving pulley; ' effective tension ' plus the additional tension necessary to prevent slippage between the belt and the driving pulley.

Tilting Dog — A hinged or pivoted pusher or safety dog.

Timber — A device to control on and off cycles.

Tongue Switch — A pivoted 'I' beam track switch which can be used on " free " line.

Top Cover — The rubber and or other polymer cover over the carcass on the carrying side of the conveyor belt comprising rubber/plastic compound of suitable grade and thickness. (*See also* ' Face Cover '.)

Torque Limiting Coupling — A type of overload release coupling.

Totalizing Conveyor Scale — *See* ' Automatic Conveyor Scale '.

Tow Conveyor — An endless chain supported by trolleys from an overhead track or running in a track at (above, flush with, or under) the floor with means for towing trucks, dollies or cars (*see* Fig. 90).

Track — The beams, shapes or formed sections on which trolleys, rollers, shoes, etc, roll or slide while being propelled.

Track Beam — A girder spanning a track hopper to support the railroad rail.

Track Hopper — A hopper located below the level of railroad tracks to receive material from railroad cars; the material in turn is taken from the hopper by a conveyor or feeder (*see* Fig. 91).

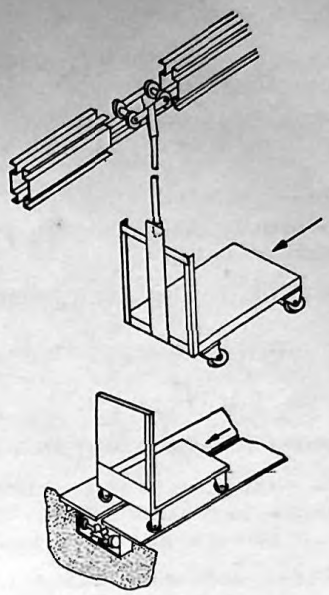


FIG. 90

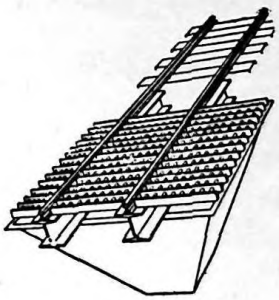


FIG. 91

Track Lock — *See* ' Rail Clamp '.

Track Stop — *See* ' Rail Stop '.

Traction Wheel — A plain, smooth, straight-face wheel without cogs or teeth which propels the chain engaged with it by the adhesive friction between the two.

Traction Wheel Turn — *See* ' Wheel Turn '.

Tractor Truck — A tractor mounting for a portable conveyor consisting of a commercial motor tractor.

Traffic Control — A mechanical or electrical mechanism to prevent collision of objects as they merge from two lines into a single line.

Traffic Inlet Regulator — *See* ' Traffic Control '.

Training Idler — *See* ' Belt Training Idler '.

Trajectory — The curve described by material freely discharging from a conveyor unit.

Tramway — A system in which carriers are supported by cable and in which the movement is continuous over one or more spans.

Transcord Breaker — A breaker comprised of cord fabric or individual cords usually running laterally across the conveyor belt between top cover and carcass. This may also be more than one ply and also set on the diagonal.

Transfer — The combination of suitable mechanisms to move objects to or from a conveyor.

Transfer Chain — A type of pintle chain having variously shaped roofs or bridges connecting the side bar tops.

Transfer Tower — A structure used to support the junction of two conveyors.

Transmission Roller Chain — A type of steel roller chain manufactured to relatively close clearances and tolerances and with highly finished surfaces (*see* Fig. 92).

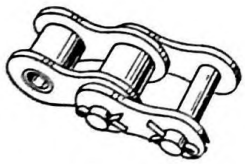


FIG. 92

Transverse Breaker — *See* ' Transcord Breaker '.

Travelling Belt Tripper — A belt tripper which may be moved to different locations. (*See also* Automatic Belt Tripper; Belt Tripper; Hand-Propelled Belt Tripper; Manually-Controlled Belt Tripper; Motor-Propelled Belt Tripper; Self-Propelled Belt Tripper; and Wing Belt Tripper.)

Tray — A car, a carrier or a pallet usually suspended from the moving element of the conveyor.

Tray Carrier — *See* ' Tray '.

Tray Elevator — *See* Arm Conveyor; Over-and-Under Conveyor; and Suspended Tray Conveyor.

Trench — A long narrow ditch below the normal grade or base floor.

Trestle Support — A multiple stand or belt support with connecting members and bracing.

Trimmer Conveyor — A self-contained, lightweight portable conveyor, usually of the belt type, for use in unloading and delivering bulk materials from trucks to domestic storage, and for trimming bulk materials in bins or piles (*see* Fig. 93).

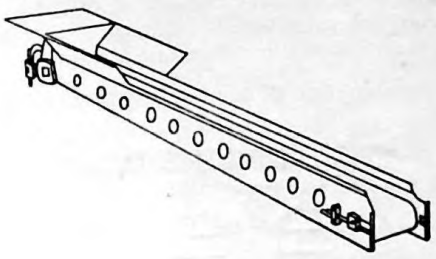


FIG. 93

Triple Arm Pulley — A conveyor pulley with three sets of spokes mounted on one or three hubs.

Tripper — *See* Belt Tripper; and Bucket Tripper.

Tripping Cam — A cam on a pivoted bucket for engaging a bucket tripper to effect discharge.

Trolley — An assembly of wheels, bearings and brackets used for supporting and moving suspended loads or for carrying load connecting and conveying elements, such as chain, cable or other linkage (*see* Fig. 94).

Trolley Bracket — Drog forged, cast, or pressed steel members to which the trolley wheels are bolted, riveted, or swedged and to which chain and attachments are connected.

Trolley Conveyor — A series of trolleys supported from or within an overhead track and connected by an endless propelling medium such as chain, wire rope or other linkage, with loads usually suspended from the trolley

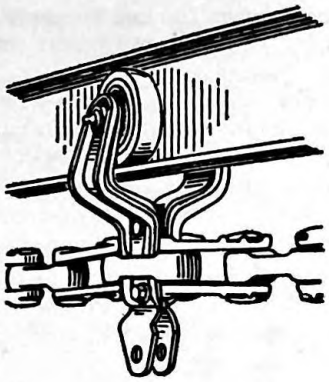


FIG. 94

(*see* Fig. 95). Trolley conveyors may be designed for single or multiple plane operation.

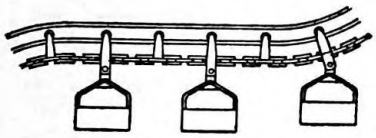


FIG. 95

Trough — A channel much longer than its width, open at the top or fitted with a cover, which contains the material being conveyed. The shape of the cross-section depends on the type of conveyor involved.

Trough End — A plate that contains or supports the bearings in which the drive and end shafts rotate, and arranged for attachment to the end of a screw conveyor trough in a manner to preserve proper alignment between the conveyor screw and trough. (*See also* Countershaft Trough End; Discharge Trough End; Inside Trough End; and Outside Trough End.)

Trough, Jacketed — *See* 'Jacketed Conveyor Trough'.

Trough Lining — Wearing plates affixed to the inside of a conveyor trough at points of maximum wear. (*See also* Screw Conveyor Trough Lining; and Wearing Plate.)

Troughability — The relative transverse flexibility of a belt as indicated by its ability to trough and come into contact with the supporting idler rollers. It is determined by measuring the deflection of a full width test piece under

its own weight midway between the end supports and is expressed as the ratio of the deflection to the flat length of the test piece (that is, width of the belting).

Troughed Belt Conveyor — A belt conveyor with the conveyor belt edges elevated on the carrying run to form a trough by conforming to the shape of the troughed carrying idlers or other supporting surface.

Troughed Roller Conveyor — A roller conveyor having two rows of rolls set at an angle to form a trough over which objects are conveyed (*see* Fig. 96). (*See also* ' El Conveyor '.)

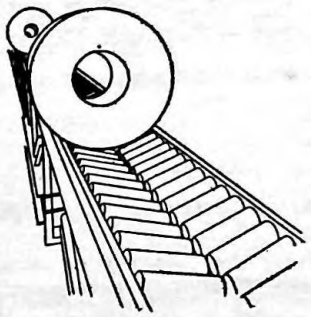


FIG. 96

Troughing Belt Training Idler — *See* ' Belt Training Idler '.

Troughing Idler — A belt idler consisting of two or more pulleys arranged to turn up the edges of the belt so as to form the belt into a moving trough (*see* Fig. 97).

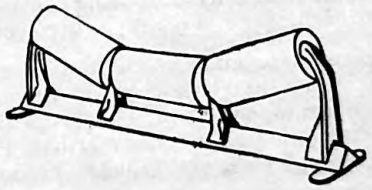


FIG. 97

Truck

a) An assembly which supports another unit in either a fixed or variable position and which provides mobility to the unit.

b) A wheeled vehicle which may be detached from conveying medium, usually chain, and pushed by hand.

Truck Unloading Conveyor — *See* ' Trimmer Conveyor '.

Truss — A framework usually with parallel top and bottom chords and usually used in pairs to carry a conveyor across a span greater than could be spanned with simple beam construction.

Tube

a) A hollow member of any shape or material in a pneumatic conveyor through which the conveying air is directed.

b) The carrying medium of a closed belt conveyor.

Tubular Screw Conveyor — *See* ' Screw Conveyor '.

Tunnel — A long, narrow subterranean passageway.

Tunnel Gate — A bin gate or bin valve usually arranged in a series in a tunnel beneath a storage bin, bunker, or pile and used for the purpose of loading a belt or other type of conveyor.

Turnhead — A free-turning connecting device between a spout and the bottom of a bin, bunker, tank, silo, or hopper for the purpose of delivering free-flowing materials radially to points on an arc of the circle whose centre coincides with the centre of rotation of the turnhead.

Turn-Over — A device used to rotate an object through approximately 180° so that its carrying surface is changed to an opposite side.

Turn-Over Sheet Feeder — One which utilizes pick-up arms to remove sheets from one conveyor, turn them over and deliver them to another parallel conveyor.

Turntable — A horizontal rotatable conveyor mechanism used for connecting conveyors which are in angular relations to one another.

Twist Conveyor — An El conveyor in which the carrying surface and guard gradually exchange their functional duties.

Twist Spout — A roller conveyor trough that twists through a 90° arc, and occasionally a 180° arc.

Two Plane Idler — A troughing belt idler in which the concentrator roll shafts are in a vertical plane separate from but parallel to a vertical plane through the shaft of the centre roll or rolls. This permits the concentrator rolls to overlap the centre roll.

U

Ultimate Strength — As applied to chains, bolts, or other linkage is the total tensile force which must be applied to cause failure of the part under

stress. It may be expressed in force per unit area, for example, kgf/mm^2 or force per unit length, for example, kgf/cm.

Undercut Bin Valve — *See* ' Undercut Gate '.

Undercut Gate — A type of gate in which a straight slide or a cylindrical segment cuts through the stream of material from the underside when the gate is closing.

Underground Mine Conveyors — Are sectional conveyors, usually of the troughed belt type, capable of being lengthened or shortened as mining operations advance or retreat, all as contrasted to above ground conveyors having fixed lengths for reasonably permanent installations. According to location in the mine or usage, they may be known as face, room, gathering, main haulage or intermediate haulage conveyors. (*See also* Belt Conveyor; Drag Chain Conveyor; and Flight Conveyor.)

Universal Coupling — A device connecting two shafts rotations of which are not parallel to each other.

Unload Plate — *In vertical conveyors of the opposed shelf type*, a plate onto which the shelves deposit the load. The load is then removed manually from the path of travel. (*See also* Discharge Plate; and Discharge Station.)

Unload Conveyor — Any of several types of portable conveyors adapted for unloading bulk materials, packages or objects from conveyances.

Up-Ender — A device to rotate an object from a position on its side to a position on its end (*see* Fig. 98). (*See also* ' Down-Ender '.)

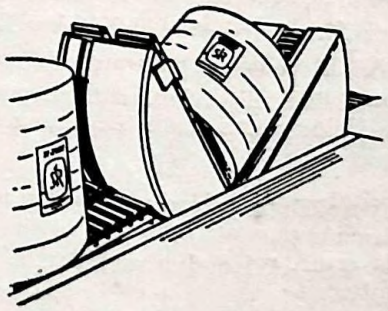


FIG. 98

U-Type Flight — A skeleton flight in the shape of a flat bottom ' U ' used in an *en masse* conveyor.

V

Vacuum Cup and Roller Slat Feeder — A device using vacuum cups to lift one end of a sheet to permit rollers on a moving conveyor to pick up, separate and deliver to suit.

Vacuum Cup Feeder — Any type of feeder using vacuum cups to pick up sheet-like material, to hold, support and deliver it.

Valley Angle — That angle to the horizontal formed by the line of intersection of two inclined planes such as the angle formed by the joint between the two sides of a hopper.

Valve — A device or structure through which material is permitted to pass. The flow may be stopped or regulated by means of a gate. (*See also* Bin Gate; and Rotary Cut-Off Valve.)

Valve Plate — *See* ' Gate Plate '.

Variable Speed Drive

a) A type of drive designed with speed changing device by which the speed of conveyor can be changed.

b) A power transmission mechanism by means of which stepless rotational speed control can be obtained. Within the limits of design, an infinite number of speeds are possible. Some transmit power through a chain and cone-shaped wheels; others drive through friction cones, or hydraulic pressure, or electrical energy.

V-Belt — A belt having a trapezoidal cross section for operation in grooved sheaves permitting wedging contact between belt sides and groove sides for power transmission.

V-Bucket Conveyor-Elevator — *See* ' Gravity Discharge Conveyor-Elevator '.

V-Elevator Bucket — A form of gravity discharge conveyor-elevator bucket in which the front and back plates make the same angle with the vertical centre line.

Vented Elevator Bucket — An elevator bucket with holes or slots to permit the escape of trapped air.

Vertical Belt Conveyor — A longshoreman's term applied to a pocket conveyor.

Vertical Chain Conveyor — Opposed shelf type — two or more vertical elevating conveying units opposed to each other (*see* Fig. 99). Each unit consists of one or more endless chains whose adjacent facing runs operate in parallel paths. Thus, each pair of opposing shelves or brackets receive objects (usually dish trays) and deliver them to any number of elevations.

FIG. 99

Vertical Curve

a) That portion of a conveyor partly horizontal and partly inclined, or at two different angles of inclination connected by a radius.

b) A section of track bent in a desired curve to change the direction of a conveyor in the vertical plane.

Vertical Projection — The apparent area, shape, or line cast on a vertical plane by a structure or other unit actually supported at an angle to the vertical.

Vertical Reciprocating Conveyor — A power or gravity actuated unit which receives objects on a carrier or car bed usually constructed of a power or roller conveyor (*see* Fig. 100). The object is then elevated or lowered to other elevations.

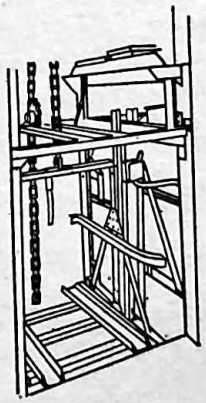


FIG. 100

Vertical Screw Conveyor — A screw conveyor which conveys in a substantially vertical path (*see* Fig. 101). (*See also* 'Screw Conveyor'.)

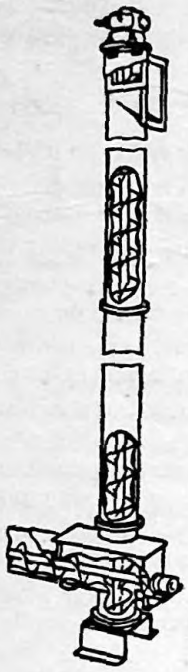


FIG. 101

Vertical Slide Gate — A gate usually of the overcut type in which the flow controlling member is a straight slide actuated by a lever, a rack and pinion or other mechanism.

Vibrating Conveyor — A trough or tube flexibly supported and vibrated at relatively high frequency and small amplitude to convey bulk material or objects (*see* Fig. 102). (*See also* 'Oscillating Conveyor'.)

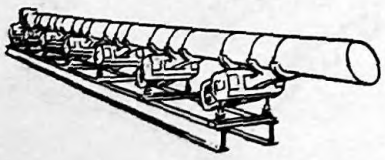


FIG. 102

Vibrating Feeder — *See* ' Conveyor Type Feeder '.

Vibrator — A device for attachment to bins or chutes to produce a quivering action and thus assist in gravity flow of contained material.

V-Type Roller Conveyor — *See* ' Troughed Roller Conveyor '.

W

Walk, Pouring — *See* Moving Walk; and Slat Conveyor.

Walking Beam — A horizontal beam driven by eccentric action so that it moves a load forward on fixed rails a given amount each stroke.

Walkway — A platform usually with railing to provide access to conveyors.

Walled Belt Conveyor — A conveyor composed of a moving belt having a flat carrying face extended to form side walls of limited height.

Wearing Bar — A bar attached to a runway which may be replaced when worn thus protecting the main members from damage due to wear.

Wearing Block — A block added to a moving part to concentrate rubbing to the block itself.

Wearing Plate — Plates which are placed at points of wear to protect the main members from damage. They are replaceable.

Wearing Shoe — Conveniently shaped parts placed at rubbing points to to take the wear and protect main members from damage.

Weather Cover — A removable cover placed over the carrying run of a conveying medium to protect from the weather, and to reduce dusting of the materials.

Web Flight — A flight containing diaphragm surfaces for cleaning out casing or forming a barrier against flow of materials in an *en masse* conveyor.

Weigh Larry — A travelling hopper for receiving, weighing or measuring, and distributing bulk materials (*see* Fig. 103). Usually fitted with a

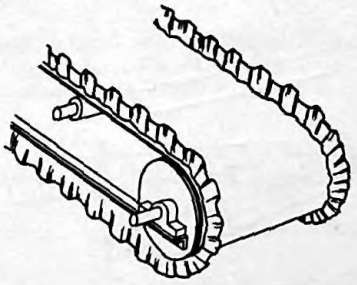


FIG. 103

scale either manually-operated or of the automatic recording type. Weigh larries may be suspended between overhead tracks, or carried on rails mounted below them. They may be hand-pushed or power-propelled, and some designs provide a riding platform or cab for the operator. A remote control device for operating the bunker or bin gates is usually mounted on the larry chassis.

Weighing Device — A mechanical or electronic device for controlling or registering the amount of material being handled. Can be designed for batch or continuous weighing and can be equipped with either visual indicators or automatic-registering equipment or both. Can also be arranged to control conveyor speed to compensate for lag in processing or nonuniform material load on conveyor.

Weighted Roller — A roller containing balls, shot, mercury or other weights.

Wheel

a) A disc or circular frame which may be solid, built-up or formed and which is capable of turning on, or with a central axis.

b) One of the wheels in a wheel conveyor usually of formed metal parts and containing an integral ball bearing.

Wheel Conveyor — A series of wheels supported in a frame over which objects are moved manually or flow by gravity (*see* Fig. 104).

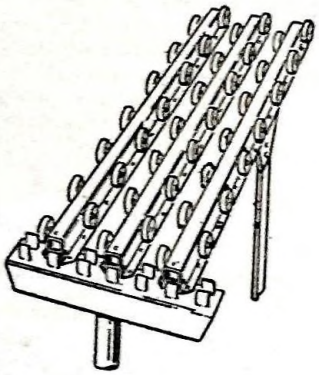


FIG. 104

Wheel Conveyor Curve — An arcuate or circular section of wheel conveyor.

Wheel Conveyor Switch — A wheel surfaced conveyor mechanism for switching objects from one conveyor line to another.

Wheel Rack — A storage rack having tiered load supporting surfaces of wheels.

Wheel Spiral — Curved sections of wheel conveyor which wind helically and over which objects are lowered by gravity (*see* Fig. 105).

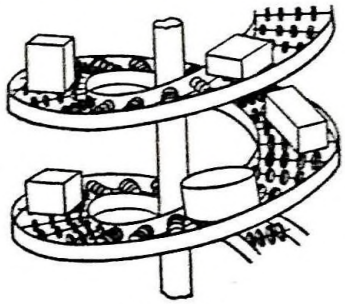


FIG. 105

Wheel Turn — A structure having a traction wheel which guides a conveyor chain around a horizontal turn.

Wheeled Truck Conveyor — A portable conveyor carriage, chassis, or truck mounted on wheel.

Wicket Conveyor — A conveyor comprising two or more endless chains connected by cross bar and to which vertical rods are attached at spaced intervals. The cross bars are also provided with spaced projections at the level of same to form in effect a continuous carrying surface through which product cannot fall. (Used for handling such products as painted steel sheets, wall or composition board, etc, on edge through dryers or bake ovens.)

Winch-Propelled Belt Tripper — *See* ' Cable-Propelled Belt Tripper '.

Windgate — *See* ' Blast Gate '.

Winding Machine — *See* ' Skip Hoist Winding Machine '.

Wing Belt Tripper — A belt conveyor tripper having auxiliary conveyors extending laterally to one or both sides to provide wider distribution of bulk material being discharged (*see* Fig. 106).

Winged Pulley — A type of pulley in which the face consists of circumferentially spaced surfaces supported on radial vanes which intersect two cones set base-to-base whose apexes coincide with the centre of the supporting shaft. Used to prevent trapping material on the face of the pulley which might damage the belt, or where material may tend to build up on the face of the pulley.

FIG. 106

Wiper — *See* ' Scraper '.

Wire Mesh Conveyor — A conveyor in which the carrying medium is of mesh construction, either flat or shaped. The conveyor may be straight or curved. (*See also* ' Wire Mesh Conveyor Belt '.)

Wire Mesh Conveyor Belt — A woven wire conveyor belt composed of various combinations of flattened-helical coils of wire which may (or may not) be joined by straight or crimped members.

Wire Rope Belt Conveyor — *See* ' Chain or Wire Rope Belt Conveyor '.

Wishbone — Guide angles fastened to floor to direct truck casters onto coveyor track.

Wood-Filled Apron Pan — An apron pan with a wood filler block bolted in to absorb the shock of loading heavy materials.

Working Load — A safe rating in pounds beyond which a conveying medium should not be stressed in service.

Wrap Drive — A form of drive mechanism that transmits motion to the conveying medium, usually located at an intermediate point on the return run, and utilizing a snub wheel to increase the arc of contact.

Y

Y-Section — *See* ' Frog '.

converging or diverging sections of track. (Commonly called ' entrance and exit switches '.)

Switch Feeder — One utilizing a switch mechanism to separate and deliver objects in groups or as single units.

Swivel Attachment — Of various designs which are used for rotating objects carried on a trolley conveyor. They may be indexed at 90° or 180° and are usually suspended from a clevis attachment. (*See also* ' Star Wheel ').

Swivel Chain — A special pintle chain having joints which permit flexure of the chain in any (more than one) plane.

Swivel Chute — A chute so mounted that it may be rotated.

Swivel Link — A chain link provided with a pivot between the pitch points permit flexing at a right angle to the normal chain joint.

Swivel Spout — A spout or chute arranged to turn or rotate so that direction of discharge of material can be varied.

Swivel Wheel Truck — A conveyor truck on which the wheels can be positioned for longitudinal, lateral or radial movement.

T

Table Feeder — *See* ' Rotary Table Feeder '.

Tail End — Usually the end nearest to the loading point. (*See also* ' End Shaft '.)

Tail Frame — The structure which supports the machinery components at the tail end of a conveyor.

Tail Pulley — A pulley mounted at the tail end of a conveyor.

Tail Section — The frame or structure at the tail or loading end of a conveyor.

Tail Shaft — The shaft supporting the tail end machinery of a conveyor. (*See also* ' End Shaft '.)

Tail Sheave — A sheave mounted on the tail shaft.

Tail Sprocket — A sprocket wheel mounted on the tail shaft.

Take-Off Lip — That piece immediately adjacent to the moving surface of a moving walk, with a close clearance with respect to the carrying surface, where passengers make the transition between moving and stationary surfaces.

Takeup — The assembly of the necessary structural and mechanical parts which provide the means to adjust the length of belts, cables, chain, etc, to

compensate for stretch or shrink, and to maintain the proper tension. (*See also* Automatic Takeup; Counterweighted Takeup; Gravity Takeup; Screw Takeup; and Spring Takeup.)

Takeup Bearing Block — A bearing with a housing having provision for movement in the takeup frame. (*See also* ' Takeup '.)

Takeup Belt Tension — The amount of tension in the two runs of belt approaching and leaving the takeup pulley which will maintain proper ' effective tension ' at the driving pulley.

Takeup Pulley — A pulley mounted on the takeup shaft.

Takeup Shaft — The conveyor shaft which is moved along with the takeup as it is actuated.

Takeup Sheave — The sheave which is mounted on the takeup shaft.

Takeup Sprocket Wheel — A sprocket wheel mounted on the takeup shaft.

Tandem Drive — A double drive where two sets of driving terminals mechanically tied together and driven from a single power source are used to propel the conveyor belt.

Tangent Inlet — An inlet into a spiral chute at any intermediate point.

Tangent Outlet — An outlet from a spiral chute at any intermediate point.

Tapered Roller Curve — A curved section with tapered rolls. The taper on the rolls and the radii of the curve all radiate from a common point.

Telescoping Conveyor — A type of conveyor, the length of which may be varied by telescoping frame members (*see* Fig. 89). (*See also* ' Extendable Conveyor '.)

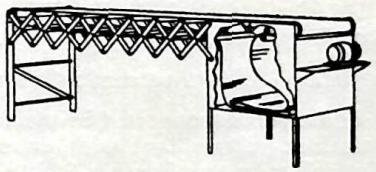


FIG. 89

Telescoping Spout — A type of spout the length of which may be varied by means of telescoping the body members.

Tension — *See* Chain Tension; Effective Belt Tension; Maximum Belt Tension; Sag Belt Tension; Slack Side Belt Tension; Starting Belt Tension; Takeup Belt Tension; and Tight Side Belt Tension.

Tension Plane — *See* ' Pitch '.